



SH-11 NO- 1101/1
Time: 02:10 CDT 16:07:10 GMT
6/19/73

PAO Good morning. This is Skylab Control at 7 hours 10 minutes Greenwich mean time, on the 26th day of the first manned mission of the Skylab program. This is extravehicular activity day for the crew to retrieve Apollo telescope mount film. And attempt to fix the charger battery regulator module 15. Skylab is coming up on acquisition at Honeysuckle, Australia at the present time. The Capcom, Astronaut Dr. Bill Thornton will be putting in a wake-up call to the crew at that time. Flight Director at the present time is Don Puddy, who reports that there have been no systems problems overnight. Everything functioning well. The surgeon's report last night was that the general health and attitude of the crew is good. They are looking forward to the EVA today and are apparently feeling physically ready for their tasks. We'll stand by for acquisition through Honeysuckle.

CC Skylab, Houston. AOS 8 minutes Honeysuckle.

CDR Morning Bill.

CC Good morning, Skylab.

CC LOS in 30 seconds. Hawaii 07:32.

PAO This is Skylab Control at 7 hours 23 minutes Greenwich mean time. Honeysuckle has loss of signal. Hawaii will acquire Skylab in 9-1/2 minutes. At 7 hours 23 minutes, this is Skylab Control.

END OF TAPE

Time: 02:30 CDT, 26:07:30 GMT
6/19/73

CC Skylab, Houston; ACS Hawaii 9 minutes.
 CDR Roger, Houston.
 CC LOS in 1 minute. Goldstone 07:44.
 CDR (Garble)
 PAO This is Skylab Control at 7 hours 44 min-

END OF TAPE

7101
NA PERP BEGINS 420 EDT

SL-11 NO-1193/1
Time: 02:40 CDR 10:07:44 GMT
6/19/73

CC LOS in one minute. AOS Bermuda 07:56.

CDR Roger.

PAO This is Skylab Control at 7 hours 52 minutes Greenwich mean time. Goldstone has had loss of signal. The Skylab is at 50 degrees north latitude now, the northernmost part of its ground track, just barely out of range of the Texas and Merritt Island, Florida stations. It will be about a 3-1/2 minute LOS until Skylab moves within range of the Bermuda station. Preparation for the extravehicular activity are scheduled to begin at a Greenwich mean time of 9 hours 20 minutes, that's 4:20 a. m. central daylight time. Flight plan time for beginning of the extravehicular activity hatch opening, 11 hours 40 minutes Greenwich mean time, or 6:40 a.m. central daylight time. The crew is still in postsleep activities at this time. No conversation during these passes right after wakeup. We'll be coming within range of Bermuda shortly. We'll stand by for that acquisition.

CC Skylab, Houston. AOS 8 minutes.

CDR Houston, CDR.

CC Go, CDR.

CDR We got any problem if we get ready to go out early, if we go ahead and go?

CC Stand by a half.

CC Schweickart may be a little late, but we're looking at the others.

CC CDR, there appears to be no reason at all here that you cannot go when you're ready.

CDR Okay, we'll do it. Thank you.

END OF TAPE

EVA MIGHT BE EARLY

SL-11 NO-1194/1
Time: 02:38:00, 10:07:58 GMT
6/19/73

PAO This is Skylab Control. Skylab Commander Pete Conrad seems fairly certain that they'll begin this extravehicular activity early. Just how early is unknown. We'll have to stand by and see how the crew proceeds and what develops. He does seem to believe that the crew will be ready to go early.

PAO LOS in 1 minute. Canary AOS 08:05.

CDR Roger.

PAO This is Skylab Control at 8 hours 5 minutes Greenwich mean time. Bermuda has loss of signal.

CC AOS for 16 minutes.

PLT Roger, Houston. What's our beta angle this morning?

CC Stand by half.

CC That's 62.5.

SC (Garble)

PAO This is Skylab Control. Skylab is in acquisition through the Canary Island station. There'll be overlapping coverage from the Ascension Island station. We'll be in contact for approximately 15 minutes on this pass.

PAO This is Skylab Control. Here in the control center, Flight Director Milton Windler, who is coming on duty with his team of flight controllers, is being briefed by Flight Director Don Puddy. When the handover is completed the Cap Com will be Astronaut Bob Crippen. Flight Director Puddy estimates his Change-of-shift news briefing for 4:13 a.m. central daylight time. Change-of-shift news briefing in the JSC news center at 4:15 a.m. central daylight time.

END OF TAPE

SL-11 NC-1195/1

Time: 02:13 CDT 26:08:13 GMT

6/19/73

CC

Skylab, LOS in 1 minute. Carnarvon 08:48.

PAO

This is Skylab Control at 8 hours 23

minutes Greenwich mean time. Ascension has loss of signal.

Carnarvon, Australia will acquire in 25 minutes. At 8 hours

23 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

RUSTY & GREN DISCUSS EVA

SL-11 NO-1196/1
Trans: 05:43 GMT, 26:00:43 GMT
6/19/73

PAO This is Skylab Control at 8 hours 46 minutes Greenwich mean time. Skylab coming up within range of Carnarvon, Australia station now. We'll stand by.

MCC And, Skylab, Houston vacuum division now on station and ready to support you over Carnarvon for about 6 minutes.

PLT Rog. Rusty.

PLT Hey, I'll probably talk to you later in the checklist, but for right now, I've already set up the EVA DAC and don't have a frame rate (garble). Do you remember what that is?

MCC Stand by and we'll get it for you.

PLT Okay, thank you.

MCC Okay, that is 6 frames per second there.

PLT.

PLT Thank you.

PAO This is Skylab Control. That was Astronaut - -

PLT Roger.

PAO - - Astronaut Rusty Schweickart, the backup spacecraft Commander for this mission, has joined Bob Crippen on the Cap Com console, and will probably handle most of the Cap Com duties during the EVA.

CDR Say, Rusty; CDR.

MCC Go ahead.

CDR I'm going to give you a guess, but I think we're about 20 minutes away from picking up and - LCG - to commence LCG donning.

MCC Okay. I understand about 20 minutes from LCG donning. How about the rest of the preps inside aside from the EV-1 and 2? Where do we stand there?

CDR Paul's doing the systems right now and the only thing that I didn't do on the front of the card yesterday which is in work right now is I'm anti-fogging helmets and otherwise on the cue card we're holding at LCG donning for Paul to catch up on systems.

MCC Okay, fine. We wondered what it was Paul was expecting the CAUTION and WARNING on and we're trying to figure out whether he just performed page 1.2-6.

PLT That's affirmative. I got the CAUTION and WARNING when I turned off the MOL sieve B fan.

MCC Okay, Paul. If that was the handwritten stuff on the bottom there, we want to remember that we're running down on the printed checklist - the preflight one now and stand by on that Mol sieve B.

PLT Okay. Let me know.

MCC Okay. We would like you to turn the MOL

SL-11 MC-1196/2

Time: 03:43 CDT, 26.08:45 GMT

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PLTVE B back on again.

MCC Okay, and also PLT, in anticipating you turning on the - going through the SUS loop activation here, we're going to start up the second pump in the primary coolant loop and you can stand by for a caution and warning on that one.

MCC PLT, we had a handover from Carnarvon to Honeysuckle there. I wonder if you got that last conversation?

PLT Yes sir. It's running.

PLT You're right. I see how I got into it is the first line of that write-in which says remove the portable fan is still applicable, so I went down the rest of it also.

MCC Okay. Fine.

MCC And PLT, Houston here. We would like to have the SUS loop activated before the EV-1 and 2 get into the - get suited up and get into the connecting to the LCGs to the PCU, and we have Hawaii coming up at 09:11, which is about 15 to 16 minutes from now. And we can be standing by at that time to monitor you with this procedure on activating the SUS loop. Or, if you're really ready for it before that time, go ahead on your own, following that procedure that we've updated you with on 12-9.

PLT We're ready now. Are you?

MCC Yes, sir. Go ahead right now. We'll watch it.

PLT Okay.

END OF TAPE

PLT

SL-11 NO-1197/1

Time: 03:55 CDT 26:08:55 GMT

6/19/79

SPT Houston, for what it's worth, we don't get the EVA warning when I fired up that pump that time.

MCC Okay. Roger. We got about 30 seconds here going over the hill at Honeysuckle, and we'll pick you up at Hawaii at about 09:11. And just to make sure you understand - -

SPT Rusty, we thought you wanted to look at that. Do you want him to continue?

MCC Yeah, just clarifying that. Just continue right on with it. You can do it during LOS here.

SPT Thank you.

PAO This is Skylab Control at 8 hours 59 minutes Greenwich mean time. Honeysuckle has had loss of signal. Hawaii will acquire in about 12-1/2 minutes. About 5 minutes ago, Pete Conrad indicated he estimated the crew was about 20 minutes away from donning the liquid cooled garments, that's the undergarment to the pressure suit. He said that they would hold up at that point to allow Paul Weitz to catch up on the systems work that's necessary for the EVA. The SUS loop, or the suit umbilical system, was activated during this pass over Honeysuckle. We should have a better estimate when we get to Hawaii as to how far ahead of the schedule time line the crew is. We'll come back up just prior to Hawaii. At 9 hours Greenwich mean time, this is Skylab Control.

END OF TAPE

DONT LINE CCU CONNECTOR

SL-11 MC1198/1

Time: 04:09 CDT, 26:09:09 GMT

4/19/73

PAO This is Skylab Control at 9 hours 9 minutes Greenwich mean time. We're standing by for acquisition at Hawaii.

MCC And, Skylab; Houston with you over Hawaii for about 6 minutes.

SPT Hey, how's the suit loop look - suit loops look, the flow.

MCC Would you say that again?

SPT I don't think I can.

MCC Okay. It looks good from here. It looks like we're getting good modulation on the valves, and it look copacetic.

SPT Okay.

CDR Hey, Rusty, PCU 010 is 6000 for the CDR; PCU 016, 6200 for the PLT.

MCC Okay. We got that.

MCC How's the SPT doing? Can he take down a note or two?

SPT Wait.

SPT Say, Rusty, in case I never told anybody that I don't like this CCU connector, I don't like this CCU connector on the umbilical.

MCC Okay. We think we understood that you don't like the CCU connector on the umbilical. Is that correct?

SPT Yes.

MCC Okay. We got it.

SPT Go ahead, Sky Prince.

MCC Okay. Wanted to let you know about the TV this morning. We're set up for Goldstone to Mila real time between 11:02 and 11:19. That's a little over a rev from now. Other times the VTR is available, and it's ready for your use any time you want it; any time you think there's anything interesting to put on the VTR, it's clean. And in particular, if you're able, we'd like to get a shot of the airlock, the pre-EVA stowage of the airlock, and also what the airlock looks like with the two guys in it there, just before you close up the hatch, if that's possible, Joe.

SPT Should be able to get you that all right, Rusty. I don't think we'll get much out the window, as Paul mentioned. You can see some things out these STS windows, but you can't get the camera in - in position, and when you do, you're pretty close to the top.

MCC Okay. Fine. I trust your judgement on that. No problem.

SL-11 KC1196/2

Time: 04:02 CDT, 26:09:09 GMT
6/19/73

SPT

Okay.

MCC

Okay, Skylab; we're about 20 seconds from LOS at Hawaii, and we'll be seeing you with the States at about 9:24.

PAO

This is Skylab Control at 9 hours 18 minutes Greenwich mean time. Hawaii has lost the signal. Flight Director Don Puddy is on his way to the News Center for the Change of Shift News Conference. We'll take the line down and tape any air-to-ground communication during the news conference, play that back at the earliest opportunity following the news conference. A Change of Shift News Conference should begin within the next few minutes. At 9 hours 19 minutes, this is Skylab Control.

END OF TAPE ✓

21199

SL-II MC1199/1

Time: 04:45 CDT, 26:09:45 GMT

6-19-73

PAO This is Skylab Control at 9 hours 45 minutes Greenwich mean time. We're about 5 minutes away from acquisition at Ascension. During the news conference, we accumulated about 3 minutes 20 seconds worth of tape. We'll play that now.

MCC And, Skylab, we've got you stateside now for - on, something like 6 minutes on this pass and then we have a short break and we'll be picking you up at Mila.

PLT Okay. We're all the bedroom (garbled) the LCG's on.

CC And we're about LOS here at Goldstone. We'll be picking you up over Bermuda at about 09:33.

CDR Okay.

CC I bet you wouldn't have even missed us.

CC And we've got you over Bermuda now for the next 10 minutes.

PLT Roger. You got any words for us, Rusty, on why we didn't get the EVA-1 warning when we turned on the SUS pump?

MCC Stand by. I'll find out.

CDR The only thing we can think of is that we're not on by pass.

MCC Okay. Our conclusion is, we've seen it before and we just assumed since the last time we saw it, that it's inoperative.

CDR That's funny that it went inoperative in both loops, even though we're not using SUS 2 (garbled)

MCC That's a good obs. Stand by.

MCC I guess our assumption on that is that if you activated the SUS this morning on 317 rather than 217 that it should have worked and since it didn't, it looks as though we don't have caution and warning there. That it's in off and we understood that your call was - that both loops did it, referred to the last time, since we only activated one loop this morning.

CDR Roger. When I did the housekeeping, whatever it was, way back in the old days that circulated those two systems through the 317 and the 323 panel, I got the caution and warning just like I was supposed to every time I went from primary to secondary, and to off, to on, and so forth. Of course, that systems housekeeping procedure we've never seen the EVA caution since then.

MCC Okay. We'll keep a look at the loop this morning on the station contacts, but it looks like no sweat.

MCC Skylab, Houston. We've got about 10 seconds to LOS. We'll be picking you up over Ascension at 09:50 which is about 6 minutes from now.

CDR Okay.

END OF TAPE

SS-11 MC-1200/1

Time: 04:48 CDT, 26:09:48 GMT
6/19/73

PAO This is Skylab Control at 9 hours 48 minutes Greenwich mean time. That's the end of the tape. And we're about a minute to acquisition at Ascension. We'll stand by for acquisition there.

CC And, Skylab, we've got you over Ascension here for almost 10 minutes.

CC Skylab, we've got you over Ascension here for about 9-1/2 minutes.

CC Joe, you might want to switch your - your TV selector there to TV before you use the VTR. And, in fact, you could go ahead and rewind back to the beginning there to give us the full tape if you want it - or make the full tape available to yourself.

MCC And, Skylab, we've got about 30 seconds to LOS here at Ascension, and we'll be picking up Carnarvon at 10:22.

PAO This is Skylab Control at 10 hours Greenwich mean time. Ascension has had loss of signal. Carnarvon will acquire in about 22 minutes. The extravehicular activity officer here in the Mission Control Center estimates that the crew, based on present preparations, could start the EVA about 1 hour early. That is by no means firm, but the estimate is that the EVA could start approximately 1 hour early. At 10 hours 1 minute Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 MC-1201/1

Time: 03:20 CDT, 26:10:20 GMT

6/19/73

PAO This is Skylab Control at 10 hours 20 minutes Greenwich mean time. Skylab coming up on the Carnarvon, Australia station. The crew in preparations for the extra-vehicular activity. Over the last station they were well ahead of the timeline, and the estimate was that they could begin the EVA as much as an hour early. We'll stand by for the Carnarvon pass.

CC Skylab, Houston over Carnarvon for about 10-1/2 minutes. And we're seeing data on the PCU.

SPT Roger, Houston. EV-1 and in the - LS - or in PCU checkout and I'm about to configure CSM count.

CC Roger.

PAO This is Skylab Control. PCU is the pressure control unit for the astronaut life support assembly.

PLT Now.

CDR Okay, you ready for the rest of this?

PLT Yeah.

CDR All right. We went to both. We verified O2 flow, reg 1 low flow light is OFF.

PLT Yeah.

CDR Low vent flow light is OFF.

PLT OFF.

CDR And lower SEVA protective visor - we can check that.

PLT Okay.

CDR That's your outboard one.

PLT All right.

CDR Okay. PCU checkout. No tough gauge accuracy. Plus/minus 0.15 PSIG MAG nominal plus/minus 0.04. Reg 1 low flow and low vent flow light's at 5 seconds away. Go to REG SELECT - REG SELECT to REG 2.

PLT Okay. REG 2.

CDR All right. You should get a REG 1 low flow and a possible low vent flow.

PLT Okay, I got a REG 1 low flow.

CDR I did too. No vent flow yet.

PLT Right.

CDR Okay, now - mode select Delta-G.

PLT If I can get it in here now (garble). Okay.

PLT I'm going to get back in the foot restraint (garble). You can read your checklist from there, right?

CDR Yeah.

PLT Does the light go out?

CDR Huh?

CDR No, the REG 1 shouldn't, we're on REG 2.

PLT Yeah, but I'm looking for when this light goes out.

SL-II NO-1201/2

Time: 05:20 CDT, 26:10:20 GMT

6/19/73

PLT 831.
CDR Yeah. Out to (garble). I'm sure glad you can
modulate this valve. There, mine was out at 3.
CDR Okay, mine's over at 34, and mine is out
and I'm stable 34. Okay?
PLT Yeah, I'm stable at a little over 34.
CDR Okay, verify (garble) 3235. Now, press
selector N.3 1 and REG 1 low flow light should go off.
PLT Okay, REG 1. I got a (garble), I just
lost - there it comes.
CDR Yeah, I got all vent flow and a SUS PRESS
light and I - now it's all off.
PLT Okay, I have a clean board.
CDR I loss a lot of pressure (garble).
PLT So did I.
CDR Yeah.
PLT I was cycling. It's doing that hunting now.
CDR Yeah.
PLT Whee, that'll do something to your ear.
CDR Yeah.
CC Talking about doing things to your ears,
we got you here on VOX.
CDR Roger. Okay, we're - we're on REG 1, Rusty.
Off STABLE now 38.
PLT Off STABLE at 37.
CDR Okay, now, press select. Both verify
no change in cuff gage at this point.
PLT That's - -

ENDOF TAPE

SI-11 MC-1202/1

Time: 05:28 CDT, 16:10:28 GMT

6/19/73

PLT Transfer - -
CDR Okay. I'm at 38, I've got no change here.
EMU integrity check. You ready for that.
PLT Yeah.
CDR Okay. Next sequence terminates O2 flow to PCA.
(garble) I will flow, and LOW VENT FLOW lights will light. On our
cuff gage for max decay of 0.8 PSIG., Your doo-dads are check.
You're the only one that hasn't, on account of that valve in your
helmet. So are you - Now let me read it through once for
you, and then we can get going. Hey, Joe are you on the line?
CDR Joe.
SPT Still here.
CDR Okay. What we need is - I need you to
time one minute for me when I tell you.
SPT Yes.
CDR Okay. Now the first thing we're
going to do, Paul, is FLOW SELECT OFF and then immediately
go PRE-SELECT OFF for one minute. And you'd want to check
the decay. Okay?
PLT Yep.
CDR All right. First, FULL SELECT OFF.
PLT You doing it now?
CDR Yes.
PLT Joe ready?
CDR Yes. All right.
SPT All right.
CDR Okay. MARK, 1 minute.
SC Some reason I wound up in 39 by the time
I got shut off.
PLT Mine came up a 10th also - to 38.
CDR I think that's from closing the (garble).
PLT (Garble)
CDR Yeah.
PLT (Whistle) I can whistle all right at
8-1/2 PSI.
CDR Uh-huh.
PLT (Whistle)
CDR Easy.
PLT Looks like I've got a fairly tight suit.
I've lost about a 10th.
SPT I've lost less than a 10th. Now I've
lost 0.08, I guess.
CC MARK. Your minute is up.
CDR Okay. PRE-SELECT to both.
SC Okay.
CDR And then FLOW to IVA.
PLT Oh, that feels good.

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Time: 05:28 CDT, 26:10:28 GMT

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CDR Okay. We passed that check. Cuff gage stable, 36 to 39, all lights off.

PLT Yep. I'm back at 37. All lights are off.

CDR Okay. You can go back to - -

PLT ABSOLUTE

CDR ABSOLUTE and you're going to get a (garble) suit press at 31 to 28.

PLT Okay. I'm going to modulate this one also.

CDR Okay.

CDR Good.

PLT Mine are super.

PLT What I was telling Pete earlier, Joe - I'm sure glad we got - you can modulate this mode switch.

CDR You can thank the sky prince down there on the ground for that.

PLT Yeah, thanks.

CC (garble) again.

PLT Your books say - -

SC Didn't work so good going to ABSOLUTE. (Chuckle)

CDR Okay. I've got a SUIT PRESS light.

PLT So do I.

CDR I had a REG 1 LOW FLOW and it went off and a LOW VENT FLOW and it went off. Okay. Now notify EV-3 that the EMU integrity check is complete. Be so notified, EV-3.

SPT (Inaudible)

CDR No. The EV-3 will read all procedures from here to ALFA deactivation following EVA temporary stop EV-1 and 2 post cue cards. And we're ready - Hey, let me ask you a question first, Joe. Have you put the VC-3 in?

SPT No, I (Inaudible).

CDR Oh. I thought it was the VS. Okay. Very good. Okay.

SPT (Inaudible)

PLT Looks like we missed the DAC.

CDR I'll get it. I'm just looking at it. I'll go get it right now.

PLT All right.

CDR It's on.

CDR It's off.

PLT One verified.

SPT (Inaudible)

CDR No, (garble). You're not really. Paul.

PLT Because I'm coming, and you ain't there.

CDR Paul. Now watch - when you get up there, it's very important - I'll keep - -

SL-11 MC-1202/3

Time: 05:28 GDT, 26:10:28 GMT

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PLT

CDR

PLT

CDR

PLT

CDR

PLT

CDR

PLT

CDR

CDR

CC

here at Carnarvon.
at Guam.

CDR

PLT

CDR

that inadvertently.

SPT

CDR

Yeah. Go on to your umbilical.

Umbilical, right.

Okay.

You're clear.

Back down, then.

That's mine you're stuffing away.

Yeah.

You know that.

Okay. The wrong one.

No. EV-1. That's me. EV-1 comes up.

No, no, it's nine, or six.

Okay, Skylab. We're going to lose you

We'll be picking you up in about 3 minutes

Okay. Bye.

I'm EV-1, Joe.

It's in. Yeah. Oh, I may have done

(Inaudible)

No you - -

END OF TAPE

22206

SL-II MC-1203/2
Time: 05:33 CDT 26:10:33 GMT
6/19/71

CC Okay. So you're coming out of the EV1 sphere, and Paul is coming out of the EV2 sphere. Is that correct?

CDR We talked about the hatch and there is no problem there.

CC Okay, we dropped out there unfortunately, Pete. We understand that you are running on the EV1 umbilical and the PLT is running on the EV2 umbilical. Is that correct?

CDR Yes, that's correct.

CC Okay.

CDR Everybody understand who is on first now?

CC Rog.

CDR Okay. Now go ahead, Joe.

CDR The hatch handle is in open. Now the other handle, the release handle, is in lock.

PLT Yes, it always goes to lock.

CDR Okay. Now I'm going to unhook it from the wall. Next. Now I'm coming. Next. Next, I'm to unlock the release handle. Right, Paul?

PLT Yes.

CDR Okay.

CDR Okay, equalize pressure. Now wait. What did you say about unlock the handle? Okay. Now close. Good, yeah, to lock. It is?

PLT Yeah.

CDR Did it kind of ratchet when you closed it, Paul?

PLT I don't remember.

CDR Okay.

PLT All right.

CC And, PLT; Houston. If you've got a second there, it's no big deal, but we're not getting very good biomed. If you can sort of press on your sensors through your suit, we'd appreciate it.

PLT How's that?

CC That sounded great. I'll tell you what it looked like.

SC Hey, (garble)

CDR Okay. Just around your neck (garble). Okay, that's good.

PLT Are you getting TV, Houston?

CC Say again.

PLT Are you getting TV?

CDR That's right there.

CC We saw while you were pressing on them, but it then dropped out. So if you want to hold yourself all through the EVA, you can. But we'll give you a choice of letting go.

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PLT

CDR

PLT

CDR

PLT

CDR

CC

We asked if you were getting TV - television.
They're not over the states.

I was just telling them what Joe asked.

Yeah, I know.

Rog.

Okay.

And for Joe's information, we pick up
real time at Goldstone at 11:02. So that's about another
20 minutes away.

SPT

Okay, we ought to be - -

PLT

I'm sorry. I was wondering why I turned

around in here. Now I know. No.

CDR

You've got to hold it until we get the

hatch closed.

PLT

Well, my concern was whether I could reach

down here with it on.

CDR

Rusty, are you there?

END OF TAPE

SL-II MC1204/1

Time: 05:42 CDT, 26:10:42 GMT

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SPT Well, my concern is whether I can reach
down here with it or not.
CDR Rusty, are you there?
CDR Houston, you there?
CC Go ahead.
CDR Okay, I checked that S054, it's okay.
CC Okay, thank you.
CDR All right, now let me just stop one second.
I got the brush, I got the hammer, I got a VC3, and I got a
VS3, and I got a EV1 and a EV2 and a lock. Is that right?
Now if it's good come on in with it.
CDR You better take that cue card off the door
first, Joe.
SPT No, it stayed on your side.
SC Excuse me.
CDR No, the other way.
SPT This end, this end. That's it.
CDR Now be careful you're not knocking my paint
brush off the handles, are you? You're banging the VS3, okay?
SPT Yes, I hope not.
CDR Now wait let's see. Yeah, he's got it up
over the roller. Right?
SPT I'm not sure which it is. Yeah, that's right.
Okay.
SC (garble)
SC It's (garble).
SPT REG 1. Okay.
CDR Okay.
SPT Okay, going to Delta-P.
CDR How the old ears are doing? Good?
SPT Good.
CDR Okay.
SPT Come off the peg. Two (garble) out at 3.0.
SPT (garble) it'll open up once the egress starts.
CDR Yeah.
SPT Okay, EV1 has a good pressure; just a
tad under 37, and on 38.
CC Okay, Houston, we're going over the hill
here at Guam and we'll be seeing you at Goldstone at 11:01.
CDR Roger, 11:01. Bye.
CC Bye to you.
SPT Roger. Houston, do you read EV3?
CC Yes, sir, I do.
SPT Okay, just to check. Thank you.

SL-11 MC1204/2

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CC
CDR
PLT
CDR
SC
PAO

And be informed, we are GO for hatch opening.
Okay. Thank you.

EV1's in GO.

All right.

(garble)

This is Skylab Control, at 10 hours 46 minutes Greenwich mean time. Guam has loss of signal. Goldstone will acquire in about 15 minutes. Skylab was given a GO for hatch opening for the extravehicular activity just before we lost contact at Guam. The hatch was not open when we lost data. Crew still conducting pressure integrity checks on their suits. Paul Weitz will be EV-1, Pete Conrad EV-2, and Joe Kerwin, EV-3. Ker - Conrad and Weitz will perform the EVA - emerge from the airlock. Joe Kerwin will remain inside the multiple docking adaptor, monitoring systems, perhaps operating the TV camera through one of the windows. The actual film retrieval will be performed by Pete Conrad, with Paul Weitz assisting. We'll come back up just prior to acquisition at Goldstone. Goldstone due to acquire in about 13 minutes now. At 10 hours 48 minutes, this is Skylab Control.

END OF TAPE

SL-11 NC-1209/1

Time: 05:58 CDT 26:10:58 GMT

6/19/73

PAO: This is Skylab Control at 10 hours 58 minutes Greenwich mean time. Skylab just about within range of the Goldstone antennas now. Skylab will cross the coast of the United States in the Seattle, Washington area, and should be visible to the residents of that area at this hour of the day. The clock being used to time the extra vehicular activity has started. It now reads 6 hours and, I beg your pardon, 6 minutes 42 seconds. That is a guess however. We do not know what time the hatch opened or in fact whether it is opened yet. However, this is an estimate based on where the crew was in the procedures when we had loss of signal at Guam. We are configured to bring in any television that might be forthcoming on this pass over the United States. And management officials are beginning to assemble in the Control Center. Dr. George Lowe, the Deputy Administrator here, Dr. Christopher Craft, the Director of the Johnson Space Center, Mr. Leland Belew, the Skylab Program Manager at the Marshall Space Flight Center, Dr. Bill Schneider, Skylab Program Director from NASA Headquarters, and Deke Slayton, Donald K. Slayton, Director of Flight Crew Operations at JSC. We should be acquiring right now. We'll stand by.

PLT - - hanging on the - -

CDR You're sitting on the boom. You've got to go underneath them slightly.

PLT Well.

CDR There you go. You're clear slightly.

PLT Yeah.

CDR There you go, you're clear. No.

PLT Okay.

CDR All right.

PLT I want that one just like that.

CDR Okay, coming at you. Great. Got it?

PLT Yeah.

CDR Now hold on to it.

PLT All right.

CDR Now, the (garble)

CC Skylab, we've got you over the states now

for about 16 minutes.

CDR Let me get it off.

PLT Wait, wait, let me.

CDR Huh?

PLT Let me put it on, and then I'll check it.

CDR Well, tell me what to set it - do you want it yellow or red? No, yellow or red.

PLT That's - doesn't it give a different color.

Okay, fine.

21-11 MC-1205/2

Time: 03:58 CDT 26:10:58 GMT

6/19/73

CDR Fine.
CDR Man, when they said EVA, they weren't kidding.
PLT (Laughter)
CDR (Laughter)
PLT That's beautiful. It goes on F6, Joe,
right?
PLT Now I see it. Walk toward EV1, that's
my film.
CDR Okay. Red is to red, right? All right,
now what speed? 1500.
PLT You're going to have to set this again
I'm sure.
CDR I mean you want it at infinity? Yeah,
you got that and a one (garble) 6/5, ready for the camera.
PLT Yeah.
CDR All right. They done hung up.
PLT Huh?
CDR I've got to get down. Let me get down.
(garble) hanging out there.
PLT You're out of there, great.
CDR I don't want to chat way. There we go.
PLT Okay.
PLT The (garble) goes which way?

END OF TAPE

SL-II MC1206/1

Time: 06:04 CDT, 26:11:04 GMT

6/19/73

CDR Okay.
PLT The trigger goes which way?
PLT Oh. That does help.
CDR Yes, you're going to put it on the outside
rail there. That's it. Can you see where the silver tape
is, right below the clip?
PLT Yeah.
CDR Those line clips, that's where it goes.
Okay, my boy.
CDR Look at that, man. Are we sliding down
the terminator.
PLT Well, wait a minute.
CDR Lincoln said I'll see you later, as we
slipped along the terminator. How's that? (laughter)
CDR Where are you going there?
PLT I'm trying to get this thing on.
CDR (laughter) That's the one thing I always
said in training was going to cause us more trouble more
than anything else.
CDR Side down, backwards, hanging out and
that a boy. Yea, yea. Now you better - after that smashing
around you better check red to red.
PLT Okay. I can't see the other one. Those
are red to red.
CDR Yeah.
PLT All the settings are on the bottom.
CDR Yeah.
PLT That's clever.
PLT (garble) up 11 and 1/500.
CDR And 6 fifths.
PLT Six fifths.
CDR Okay.
PLT Okay, hold it until I get back in.
CDR Okay.
CDR Okay, here I come.
SC (garble)
PLT Don't fall. That's a long way.
CDR Now tie it. That worked pretty slick.
CDR Boy, it looks like a long way down to the
Earth. Hi, there.
PLT You know why?
CDR Why?
PLT It is a long way down.
CDR I guess you're right. All right I'll keep
on going.

SL-II HC1206/2

Time: 06:04 CDT, 26:11:04 GMT
6/19/73

PLT Look at the Sun hitting the tops of those clouds; just the tippy top handle.

PLT Where are we, Rusty? What part of the ground are we over?

CC Oh, try something like Montana.

PLT That's what I figured. I think I can see some of those big lakes up in Canada around Winnipeg.

CDR Oh, boy, is this translation super slick. The big water tank in the sky (laughter) (garble) is almost to become a water tank in (garble). Whee.

PLT Okay, I'll hook your umbilical.

CDR Wait, I want to look at the CBRM 15.

CDR Okay, wait.

CDR Okay, it's - Joe you better get the drawing out. Let's see, there's three CBRM's here and it looks to me like it's the furthestest to my right and the closest to the Sun end.

CC That's correct.

CDR All right, that's correct. And Rusty, you want me to hit it at the bottom of the leg that has all the screws sticking out. Is that right?

CC Stand by, let me get my little picture here.

CDR Get your little picture. It's not exactly the way I pictured it.

CC Okay, the upper - If you were standing in front of it, it's the upper lefthand portion of it that's raised. Is that correct?

CDR Yeah.

CC Okay, if you start at the screws on the upper right hand corner of that upper portion -

CDR Uh, huh.

CC Okay, you come down three screws and you hit the corner and you turn to your left and you go one screw and that one's the one you pound on.

CDR Hold it, you just lost me.

CDR The - the upper right is away from the Sun end.

CC That's correct, and you come toward the Sun end three screws. That takes you down that first short leg.

CDR On it.

PLT Yeah (garble) one screw to the left. See?

CC Right.

CDR I see. I got it. All right, now.

2215

SL-11 MC1206/1

Time: 06:04 CDT, 26:11:04 GMT

6/19/73

CDR Okay.
PLT The trigger goes which way?
PLT Oh. That does help.
CDR Yes, you're going to put it on the outside
rail there. That's it. Can you see where the silver tape
is, right below the clip?
PLT Yeah.
CDR Those line clips, that's where it goes.
Okay, my boy.
CDR Look at that, man. Are we sliding down
the terminator.
PLT Well, wait a minute.
CDR Lincoln said I'll see you later, as we
slipped along the terminator. How's that? (laughter)
CDR Where are you going there?
PLT I'm trying to get this thing on.
CDR (laughter) That's the one thing I always
said in training was going to cause us more trouble more
than anything else.
CDR Side down, backwards, hanging out and
that a boy. Yea, yea. Now you better - after that smashing
around you better check red to red.
PLT Okay. I can't see the other one. Those
are red to red.
CDR Yeah.
PLT All the settings are on the bottom.
CDR Yeah.
PLT That's clever.
PLT (garble) up 11 and 1/500.
CDR And 6 fifths.
PLT Six fifths.
CDR Okay.
PLT Okay, hold it until I get back in.
CDR Okay.
CDR Okay, here I come.
SC (garble)
PLT Don't fall. That's a long way.
CDR Now tie it. That worked pretty slick.
CDR Boy, it looks like a long way down to the
Earth. Hi, there.
PLT You know why?
CDR Why?
PLT It is a long way down.
CDR I guess you're right. All right I'll keep
on going.

SL-II MC1206/2

Time: 06:04 CDT, 26:11:04 GMT

6/19/73

PLT Look at the Sun hitting the tops of those clouds; just the tippy top handle.

PLT Where are we, Rusty? What part of the ground are we over?

CC Oh, try something like Montana.

PLT That's what I figured. I think I can see some of those big lakes up in Canada around Winnipeg.

CDR Oh, boy, is this translation super slick. The big water tank in the sky (laughter) (garble) is almost to become a water tank in (garble). Whee.

PLT Okay, I'll hook your umbilical.

CDR Wait, I want to look at the CBRM 15.

CDR Okay, wait.

CDR Okay, it's - Joe you better get the drawing out. Let's see, there's three CBRM's here and it looks to me like it's the furthestest to my right and the closest to the Sun end.

CC That's correct.

CDR All right, that's correct. And Rusty, you want me to hit it at the bottom of the leg that has all the screws sticking out. Is that right?

CC Stand by, let me get my little picture here.

CDR Get your little picture. It's not exactly the way I pictured it.

CC Okay, the upper - If you were standing in front of it, it's the upper lefthand portion of it that's raised. Is that correct?

CDR Yeah.

CC Okay, if you start at the screws on the upper right hand corner of that upper portion -

CDR Uh, huh.

CC Okay, you come down three screws and you hit the corner and you turn to your left and you go one screw and that one's the one you pound on.

CDR Hold it, you just lost me.

CDR The - the upper right is away from the Sun end.

CC That's correct, and you come toward the Sun end three screws. That takes you down that first short leg.

CDR On it.

PLT Yeah (garble) one screw to the left. See?

CC Right.

CDR I see. I got it. All right, now.

SL-11 MC1206/3

Time: 06:04 CDT, 26:11:04 GMT

6/19/73

CC And that's the one you pound on.
CDR Yeah. Okay, I'll do that last. What's
next? Let's go on the checklist. I got to clamp my LSU.
PLT Yeah.
PLT No, not yet. I thought you said you wanted
to do that last.
CDR Yeah, I want - -
PLT Yeah, I know.
CDR Okay, go ahead and pass me the hammer. I
can't clamp my LSU then because I'm going to have to go around
it.
PLT All right.
CDR Okay.
PLT Let me clamp your LSU up here.
CDR Okay.
CDR Oh, look at that neat SAS panel. Oh, and
there is the - -

END OF TAPE

SL-II MC1206/2
Time: 06:04 CDT, 26:11:04 GMT
6/19/73

PLT Look at the Sun hitting the tops of those clouds; just the tippy top handle.

PLT Where are we, Rusty? What part of the ground are we over?

CC Oh, try something like Montana.

PLT That's what I figured. I think I can see some of those big lakes up in Canada around Winnipeg.

CDR Oh, boy, is this translation super slick. The big water tank in the sky (laughter) (garble) is almost to become a water tank in (garble). Whee.

PLT Okay, I'll hook your umbilical.

CDR Wait, I want to look at the CBRM 15.

CDR Okay, wait.

CDR Okay, it's - Joe you better get the drawing out. Let's see, there's three CBRM's here and it looks to me like it's the furthestest to my right and the closest to the Sun end.

CC That's correct.

CDR All right, that's correct. And Rusty, you want me to hit it at the bottom of the leg that has all the screws sticking out. Is that right?

CC Stand by, let me get my little picture here.

CDR Get your little picture. It's not exactly the way I pictured it.

CC Okay, the upper - If you were standing in front of it, it's the upper lefthand portion of it that's raised. Is that correct?

CDR Yeah.

CC Okay, if you start at the screws on the upper right hand corner of that upper portion - -

CDR Uh, huh.

CC Okay, you come down three screws and you hit the corner and you turn to your left and you go one screw and that one's the one you pound on.

CDR Hold it, you just lost me.

CDR The - the upper right is away from the Sun end.

CC That's correct, and you come toward the Sun end three screws. That takes you down that first short leg.

CDR On it.

PLT Yeah (garble); one screw to the left. See?

CC Right.

CDR I see. I got it. All right, now.

SL-11 MC1206/3

Time: 06:04 CDT, 26:11:04 GMT

6/19/73

CC And that's the one you pound on.
CDR Yeah. Okay, I'll do that last. What's
next? Let's go on the checklist. I got to clamp my LSU.
PLT Yeah.
PLT No, not yet. I thought you said you wanted
to do that last.
CDR Yeah, I want - -
PLT Yeah, I know.
CDR Okay, go ahead and pass me the hammer. I
can't clamp my LSU then because I'm going to have to go around
it.
PLT All right.
CDR Okay.
PLT Let me clamp your LSU up here.
CDR Okay.
CDR Oh, look at that neat SAS panel. Oh, and
there is the - -

END OF TAPE

2220

SL-11 MC-1207/1

Time: 06:09 CDT 26:11:09 GMT

6/19/73

CDR Oh, look at that neat SAS panel. Oh, and there is the orange sail. Oh, I see what's the matter with that sail. That's why we got the hot spot on the wall. Joe, you're absolutely right. The one rod didn't, the aft rod didn't extend fully. Yeah. I'll tell you we could - -

CC We got you, go.

PLT Are you ready for the hammer, Pete?

CDR Yes.

CC Go ahead, Joe.

SPT Okay, Rusty. I'm on the step where I turn the reg on and then I go charge around and verify the batteries are charging, and immediately turn the reg off. It's not discharging, it's at zero, essentially zero.

CC Okay, Joe, we got the checklist here. And we dropped out just a second there. Understand you got the REG ON, and the charger switch ON, and it did not discharge when you turned the charger switch on.

SPT Okay since then, it reads a hair below zero just like normal.

CC Okay, and then you went charger OFF.

SPT Well, the first time I went charger ON, and it dropped to minus 5 amps momentarily, and then to zero, and I hit charger OFF. Now I have REG and charger on - I have the charger in BAT - status lights in zero on the amps.

CC Okay, stand by.

SPT I just went through the cycle again. Go ahead.

CC Okay, if you turned the REG off after you saw the discharge there, that's just right, and we're ready for Pete to dash on.

SPT Okay. No, wait a minute because I've got it again, Rusty. Should I just go through it, go through the steps again. Ignore the responses, and will that get us to a ready configuration?

CC Okay, as long as you turn the REG on, the CHARGER ON, and then the REG OFF, then we're ready.

SPT Okay.

CDR I've got to get to it first. Just a minute. Okay Paul, tell me that I'm staying clear of - -

PLT Yeah, I will.

CDR (garble) when the Sun is great.

PLT I will, I'll tell you.

PLT Hey, Pete, if you're going to go further, I've got to give you more umbilical.

CDR I can almost reach it. All right. Okay.

SL-11 MC-1207/2

Time: 06:09 CDT 26:11:09 GMT

6/19/73

PLT I'll tell you when he hits it, Joe.
PLT There it goes. Yeah. Boy is he hitting
it. Holy cats.
CDR All right, did anything happen?
SPT Houston, EV3. He hit it with the hammer.
I had no (garble) ? turned the charger on, and I'm getting
a lot of amps plus on the battery. Do you want to have
a look at it?
CC Okay, that's good. It worked, thank
you very much gentlemen, you've done it again.
PLT How about that.
CDR I can't believe it.
PLT I can't either.
CC How hard did you hit it?
CDR Pretty hard.
PLT Yeah, he hit it pretty hard.
CC That's what it takes. The old Army
technique wins once again.
PLT It's still hanging on, the ATM is still
whipping around, but it will settle down soon.
SPT Rusty, EV3
CC Go ahead.
SPT I got a REG light on that CBRM now showing.
Command the REG ON or are you happy with the present configu-
ration?
CC Stand by just 1, I'll check with EGIL.
SPT Thank you.
PLT Let me get rid of the hammer for you,
Pete.
CDR Yeah, just a second, let me get locked
back in here again. Okay.
CC Okay, we'd like to leave it the way it
is, EV3. Just leave it with the REC off.
SPT Okay, just keep us posted on your desires,
and we'll press on.
CC Okay.
PLT Watch the boom.
CDR Okay, stand by, stop.
PLT Got it.
CDR Yeah.
CDR Okay.
PLT Okay, EV1 is at 365, no light.
CDR Okay. EV2 is at 370, and while I was
just finishing pounding why - I had a flow dropout and
back on again, but I think that was - -
PLT I'm getting that too as I move around
up here, Pete.

SL-11 NC-1207/3

Time: 06:09 CDT 26:11:09 GMT

6/19/73

CDR

Okay.

PLT

You ready?

CDR

Yeah, retract it.

SPT

All right, let me read you the next step
while you're retracting- -

END OF TAPE

EVA

SL-11 MC-1208/1

Time: 06:14 CDT, 26:11:14 GMT
6/19/73

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CDR Okay. You ready? I can't retract it.
PLT All right. Let me read you the next
step while you're retracting it, which is center boom, extend
1 foot, deploy the boom hook and verify that the boom hook
is unlocked. That may already be done.
CDR Yep. It will be.
PLT All right. Just a minute and I'll
catch up with you when you get there. Okay.
CDR Knocked a little paint off the CBRM, but
I guess it was worth it.
CC Hold on, I'll check with EGIL.
CDR Okay. We're 50 percent done now. If I
can find a 1-millimeter speck on D-1, we've got it made, huh?
PLT Why don't you clamp your umbilical, Pete?
CDR Okay. Yeah. Let me do that.
CDR How's that?
PLT Okay. (Garble).
CDR (Garble). Wait. I didn't give myself
enough. Ahh, come on.
PLT Yeah. They work like they always have.
CDR Yep. But I'll tell you. The big water
tank in the sky is the way to do it. Hey, Rusty,
while he's doing that, let me tell you something about this
sail.
CC Okay. We're listening.
CDR It needs to be rotated. We'd get a little
better cooling on the upper part if we rotated it - (Chuckle)
How am I going to tell you?
PLT Looking from the inside out.
CDR Looking from the inside out, we want to
rotate it - it looks to me like counterclockwise, approximately
15 degrees. And that would cover the top end of the goal that's
exposed. And it would also pull more of it over the
bottom end, where it's not fully deployed. And I really
recommend that we do that.
CC Okay. We copy.
CDR That's why that water tank ring is hot,
then cold underneath, and then hot again, Paul.
PLT Yeah. Do you want it to go - If you look
down there, it's more on your right side.
CDR As I look down there, it's more - It's
looking at me?
PLT Yeah.
CDR As I look that way, which is minus X - -
PLT Yeah.
CDR It should rotate this way, which means
it's low on the right hand side.

SL-11 MC-1208/2
Time: 06:14 CDT, 26:11:14 GMT
6/19/73

22226

PLT Okay.
CDR Yeah. Should go counterclockwise about
15 degrees.
PLT Okay.
CDR That would really do the track.
PLT All right, Joe. I'm ready - the VC - what
do we put on there first?
CDR What am I flying over, Rusty?
CC You're flying over the chain of islands
just north of the Dominican Republic, now.
CDR Oh, yeah. I recognize it.
SPT You getting TV, Rusty?
CC Yes, I do. And EV-3, for your information,
we're going to be going LOS here in about a minute from now.
So if you do not want the TV on the VTR, you can turn it off.
SPT Roger, roger. You ready, if I read, to
send it down? Yeah.
CC EV-3, in fact, we have stopped the tape
recorder. You have 14 minutes left on it, so you can turn
it on when you decide you've got something worth looking at.
SPT Okay. (Garble).
CDR Well, it's off about 4 inches, but that's
good enough, we'll go with that.
SC Very nice.
PLT Okay. (garble) Let us get it stopped Joe.
SC Rusty, this boom is really working the
switch.
CC That's probably because of the improved
water conditions up there.
CDR Okay. Stop.
CDR No, wait a minute. Paul, back it up
a little. I'm going to have to go back in there. Yeah.
Okay. Stop, that's good enough.
SC (garble) we supposed to (Garble).
CDR (garble) clock, release, pull.
SC Yeah. Okay. Stand by.
CDR Okay to (garble) - boy, the canister
rolls these - these - rocks easily.
PLT Does it?
CDR Yeah. All right, go ahead.
CC Okay. We're going to pick you up again
at Carnarvon at 12 on the min - on the hour.
SC Twelve? We've got to stop for lunch, then.
CDR Do what?
CC That's the people at Greenwich that do
that - not you guys. Press on.

SL-II MC-1208/3

Time: 06:14 CDT, 26:11:14 GMT

6/19/73

PAO This is Skylab Control at 11 hours 19 minutes Greenwich mean time. Bermuda has had loss of signal. Next station to acquire is Carnarvon in 41-1/2 minutes. EVA going very successfully so far. Pete Conrad was successful in konking that charger battery regulator module number 15 with the hammer. That battery is now charging. That'll provide about 240 more watts to the power reservoir. The next task is to retrieve the film from the six Apollo telescope mount experiments, S054, the X-ray spectrographic telescope, S056, the X-ray telescope S052, the white-light coronagraph, the H-alpha experiment, which does not have a number; and S082A, the X-ray ultraviolet coronal spectro heliograph; and S082B, the ultraviolet spectrograph. Pete Conrad will also use a lens brush. You may have heard him refer to his paint brush awhile ago. He was wondering where it was. - -

END OF TAPE

22227

SL-11 MC-1209/1

Time: 06:21 CDT 26:11:21 GMT

6/19/73

PAO You may have heard him refer to his paint brush a while ago, he was wondering where it was. That's the lens brush that he will use to clean the occulting disk of the S052 experiment. He is scheduled to do this just before retrieving the S082 experiment. There appears to be a piece of contamination about 1 millimeter in diameter on that disk. It causes a bright spot at the 4:00 position. And it's believed that brushing it with the lens brush will dislodge the contamination and clear the disk. He will also velcro a piece of material from the standup EVA sail, which was not used, an 18 inch square piece of material to one of the ATM struts. This material is the same as that in the parasol. And it will be used as a test piece of material to check on deterioration of the material, not by this crew but will probably be retrieved by the Skylab III crew. This crew cut this piece of material from the sail and then, using a needle and thread available in their pressure garment maintenance kit, sewed some velcro to it. Following that, they will begin the ingress back into the airlock module. We'll have to stand by for another 37 minutes to find out how things have gone. Pete Conrad believes he has discovered what is causing the hot spot. He reported that it looked to him like the aft rod on the parasol was not fully extended. He recommends rotating the parasol counterclockwise, as you're looking at it from the inside out, as he put it, about 50 degrees and he thinks that will fix the situation. And he recommends that they do that. We'll come back up just prior to acquisition at Carnarvon. At 11 hours 24 minutes, this is Skylab Control.

END OF TAPE

SL-11 M-1210/1

Time: 06:33 CDT, 12:11:33 GMT
6/19/73

PAO This is Skylab Control at 11 hours 33 minutes Greenwich mean time. The flight surgeon measured metabolic workloads during that pass over the United States as 1200 British thermal units for Pete Conrad, 1500 for Paul Weitz. Conrad's high heart rate was 130. He averaged about 120 during that EVA. Although, when resting, it would drop as low as 80 according to the flight surgeon. Flight surgeon estimates that the high of 130 came when he was pounding on the CBRM housing with the hammer. No heart rate information was received on the pilot, Paul Weitz. Apparently the EKG sensor is loose and the biomedical console is not receiving heart rate information on Paul Weitz. The EVA clock shows 42 minutes 26 seconds since the start of this EVA. Start timing is an estimate. We have no way of verifying the time - the exact time of hatch opening. Hatch opening did occur, but out of contact with the ground station. Occurred between Guam LOS and Goldstone acquisition. So we will have to estimate hatch opening at 10 hours 53 minutes Greenwich mean time, or 5:53 a.m. central daylight time. Skylab is still 25 minutes away from acquisition at Carnarvon. We'll come back up then. At 11 hours 36 minutes, this is Skylab Control.

END OF TAPE

SL-II NC1211/1

Time: 06:58 CDT, 26:11:58 GMT

6/19/73

PAO This is SKylab Control at 11 hours 58 minutes Greenwich mean time. Skylab coming up shortly within acquisition range at Carnarvon. The television on the monitors in the News Center is a replay of the television sent down earlier during the last pass over the United States. Have a correction on the number of degrees that Conrad recommends the parasol be rotated counterclockwise. It should be 15 degrees, not 50. 15 degrees rotated counterclockwise as you look from the inside out. We'll find out here at Carnarvon how far along in the EVA the crew is. The smallest of the canisters that Conrad has to remove, that of the S052 experiment, is 7 by 10 by 9 inches. The largest is the S082 experiment, 18 by 9 by 21 inches. S056 is the lightest weight film canister, 18 pounds, and S082B the heaviest at 60 pounds. We're informed that at the end of the manned portion of this mission, there will have been 30,242 frames of Apollo telescope mount film exposed; 30,242 frames. Of that, 13,000 frames is from the H-Alpha experiment. That's the most from any one experiment. The least from any one experiment is the 82A - 194 frames.

CDR Have to turn - yeah. Yeah. Yeah. Okay.

PLI Hello, Houston.

CC Hi there. We're reading you fine and clear, and we got you over Carnarvon for about the next 7 minutes.

PLI Okay, Pete is just finishing up at the Sun end. He thinks he saw and identified the speck on the S052. We did not look at it, of course. That is, we didn't look at the display. And we've been going from experiment pointing back to solar inertial where he works down there, because that whole canister really moves when he's in the XP.

CC Yes, sir. You should definitely be in - in solar inertial when he works on it. In fact, the procedure calls that out, Joe.

SPT Well, I don't think it does, Rusty, but (garble)

CDR All right. All right, now it's all done. The inside 82B handle is down. The outside 82B door is locked. They're both in the thing. What's next?

CDR Okay.

CDR And two things, Rusty: As he started rotating the canister around - you know all these things we've been seeing on the white light coronagraph?

CC Yes, sir. Go ahead.

CDR Well, I believe they're coming from inside the ATM. Would you go for that? Because as he started rotating the canister with the door open, I actually saw one little piece of - it looked to me like silver insulation, Mylar

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Time: 06:58 CDT, 26:11:58 GMT

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type or whatever, come floating out of the S052. Okay. Now when I got the S052 around to me, I'd look down in there, and of course - I stand right over it; so that took care of any sunshine that'd back out at me - And in the position that you described, it looked, as best I can tell, like a piece of white thread, if that makes sense. And I guess it does. There is a lot of white cloth around in here. And I believe I got it off. The disc on the outside anyhow is as clean as I can see it right now. And just to make sure, I brushed from inside out 360 degrees around very gently. There was no tendency for any hairs to hang up on it. And as best as I could tell, there were no hairs on it. The brush worked fine, and it remained soft. So I think everything's in good shape, and you can get a look at it later.

CC Okay, fine. Thanks very much. Would you guess what most of those particles are? I understood that at least one you saw looked like illuminumized Mylar, or something like that.

CDR

I - I'll - -

END OF TAPE

SL-11 MC-1212/1

Time: 07:03 CDT, 26:12:03 GMT

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CC Okay. Fine. Thanks very much. Would you guess what most of those particles are? I understood that at least one you saw looked like aluminized mylar, or something like that.

CDR I only saw one piece come out. But I'm thinking that - Look, another thing - when I pulled S052 film container out, there was a little washer floating in there. It was on the container - next to the container. And I picked that up. We have continually run across cutout (garble) rivets floating around inside the spacecraft. And low and behold, I've seen at least one out here floating around. It came floating out of the ATM. So I still think this thing is belching itself of whatever wasn't kept out of it when it was on the ground. It's just slowly - All these things are working their way out. Let me tell you another thing. I believe it was A-quad that I'm looking down at from the VC-3 Station, and the silver insulation, looking plus X to the left side, which is in the Sun, is quite blistered all over the whole side of the service module. You can very definitely tell it's been in the Sunshine for a long time. The quad, itself, looks pretty good, although there is paint blistered around it. But not any more so than on the other quad that I can see. There's white paint blisters pretty well all over the service module, to the point where some of it flaked off.

CC

Okay. We got you.

PLT

Okay. Pete verified the 82-A, 82-B and the (garble) doors are closed. Rusty, I think it was in the checklist to go back to S1. It was on the second page of that particular change. Sorry.

CDR

Okay. All doors are closed except S054.

SPT

Okay.

SC

Okay. What?

PLT

Wait a minute, I ain't got the DAC on yet.

CDR

Our biggest problem so far, Rusty, has been that DAC.

CC

Yeah. I guess we'd have guessed that, too.

SPT

Houston. We got an - an (garble) MALF, probably CMG (garble). We're momentum dumping now.

CC

Okay. We'll see if we can give you some word.

SPT

Thank you.

PLT

Okay. What do you want me to do, Joe?

SPT

(Inaudible)

CDR

I'm on my way. Here come my (garble).

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Time: 07:03 CDT, 26:12:03 GMT

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CDR There we go into night too, huh?
PLT Yeah.
PLT I'm going to need some new settings for
this DAC in a minute, Joe, when the sun sets.
PLT Just hold it right there, Pate, until
I change them, will you?
CDR Yeah. I'm in the - I'm in the foot
restraint.
PLT Okay. I'm perfectly comfy.
PLT That enough umbilical?
CDR Wheee, yeah. Is that a pretty sunset.
Upside down. Wheee.
PLT We ought to end the film light on this
thing, we're only 75 percent gone.
PLT I'll try it. Give me some settings.
CDR It's probably jammed.
CDR Happened the last time.
CDR Last time we had one of those end of
film lights - Think I better raise my EV visor, that's one
of the reasons I can't see anything.
CDR Oh, that's pretty.
PLT Okay. F-1.8.
CDR Hey. You're not going to get any more
pictures. I can tell you that.
CC Okay. Joe, be advised; we're reselecting
2 and 3 into Z axis, for your information, on the rate-gyros.
SPT Thank you. I just figured out what
was wrong.
CDR Oh, boy, can I see the lightning on the
ground. Where are we, anyhow?
CC Okay. You're coming up over Indonesia
at the present time.
CDR Ah, it's a thunderstorm. I see three
very bright fires. I wonder if they're oil well fires.
PLT Yes, sir. Yeah.
SC All righty.
SC Okay.
PLT Hey, that lighting is good out here, isn't it?
CDR Yeah.
PLT Why don't you see if you can get ah -
CDR Hold it. That's good. Right there.
PLT Yeah.
CC Okay. We're about to get LOS here at
Carnarvon. We'll be picking you up at Guam in about
5 or 6 minutes.
CDR Okay. You can go ahead and retract it
now, Paul.

SL-11 MC-1212/3

Time: 07:03 CDT, 26:12:03 GMT

6/19/73

PAO This is Skylab Control at 12 hours
9 minutes Greenwich mean time. We have loss of signal at
Carnarvon. We'll acquire at Guam in about 6 minutes. Pete
Conrad has finished up his tasks at the S:n end of the Apollo
telescope mount - -

END OF TAPE

SL-11 MC-1213/1

Time: 07:09 CDT 26:12:09 GMT

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PAO All of the film retrieved from the experiments and film resupplied to those experiments. He has cleaned the lens of the 8052, the white light coronagraph. He thinks he saw the contamination, said it looked like a little white thread. Reported he also saw other items floating out of that area when he opened the experiment - what appeared to be little specks of mylar. He reported that the silver insulation on the service module appears to be pretty well blistered all over. Some of the paint has flaked off. He reported that the situation around Quad A reaction control system, Quad A did not appear to be much different than the other quads. The paint around that area was blistered, but no worse than the other quads. Temperatures have been running about 20 degrees higher on that quad than we expected them to. The DAC that Paul Weitz referred to that was giving them a lot of trouble is the data acquisition camera. He's recording the EVA activities with this camera. Shortly before LOS, Conrad reported he saw 3 very bright fires. It was over Indonesia at the time. He wondered whether they might be oil well fires. Guam will acquire in about 3-1/2 minutes. We'll keep the line up and await acquisition there.

END OF TAPE

SL-II MC-1214/1

Time: 07:13 CDT 26:12:13 GMT

6/19/73

CDR Ah, hell, ah darn it
PLT Here's my foot.
CDR This is an impossible task. As usual,
it's going to be the toughest one of them all.
PLT Get back on top, I'll grab you on either
side with my feet.

CDR I can't get back up on top. I'm rotated
around now. There, how's that? Gosh darn stuff is
hard to handle out here. It doesn't want to do what I want
it to do at all. Real simple idea. All it wants to
do is stay straight.

CC And Skylab Houston, we've got you for
about the next 5-1/2 minutes.

CDR I wish I knew who kept inventing these
neat little things like putting sails around. It's the
toughest task in EVA. I got it. I got it, I got it all
done.

PLT Don't touch it, don't touch it.
CDR It's like the thermal fan, but it's
(garble). Now, okay, I'm getting out of here.
PLT Let me get back in.
CDR All right. Hold on there.
PLT No, wait.
CDR Wait.
PLT Let me get back up there to the hand
rail.

CDR There we go. Okay. That's the most
work of the whole EVA.

CC Rog.
CDR 3.7, okay, it's on there.
PLT What am I hung up on?
CDR Where - wait.
PLT There, okay, you're in, whatever it was.

Okay.

CDR All right. We've got got 1 light blinking.
Well, I guess that's the - must be the running light, not
an EVA light. Hey, Joe. Can you turn on the docking lights?
Not the docking lights but the - damn lights were on but
no the, you know what I'm talking about, the running lights.

PLT No, I don't think we can. Can we?
Joe, they are on the upper right hand side of the panel
there.

CDR I guess they're tracking and docking I
think. Docking is what I want. See, that's the white light
right next to D024 (garble) - no, forget it. No, that's the
flasher, turn that off.

SL-11 MC-1214/2

Time: 07:13 CDT 26:12:13 GMT

6/19/73

PLT Tracking light.
CDR Now, okay, never mind.
SPT Are you ready for D024? Let me get your umbilical out of the way.
CDR Yeah.
CC Troops, if you want the docking lights on, we can command them on from the ground if you like.
CDR Okay. Yeah, well, I guess I can read D024. There's a nice white light mounted on it right?
CC Should be.
CDR Yeah. Well, that's all right, I can read it. A and B mine like in (garble) Wait a minute, let me get down there. Okay. Here I go.
PLT Hey, Rusty, post that, remind me to talk to you about the scorch patterns on the outside of the vehicle here, will you please?
CC Yes sir, we will.
CDR Okay, now what do you want me to do?
Just a second.
PLT Don't I move this back before ingress, Joe?
CDR Okay, I can move the container, and it's not stuck. Okay. F7
PLT Yeah, I'd chance that - looks (garble)
CDR All right. It's it open. Okay. My altitude is a little off there. Okay, I have it in my hand, samples (garble) Okay. No, not yet.
CC And just for information, it appears Pete, you may be running a little low on your diverter there as far as which half is taking out the cooling. And we've got about 40 seconds to LOS here at Guam. We'll be seeing you over the states at Goldstone at 12:38.
CDR Okay. It's stowed. Yeah, okay.

END OF TAPE

SL-11 MC1213/1

Time: 07:21 CDT, 26:12:21 GMT

6/19/73

CDR Whee.
SC Hey, that's one of them.
CDR Okay, now you want the pip pins back in.
Right?
SC (garble)
CDR Get two of them first. Just one of these
deals where you got no foot restraints, you're going one handed,
you know. This thing is (garble). All you had to have done
is put a set of foot restraints there and you'd have had it made.
PLT Well, (static)
PLT You don't need the container?
CDR No, I'm not there yet. Wait a minute.
CDR Just have to diddle around, tries to take you
forever.
PLT Yeah, I know. I've done it.
SC (static)
PAO This is Skylab Control, at 12 hours
42 minutes. Guam has had loss of signal. Goldstone will
acquire in 16 minutes. As we came into acquisition at Guam,
it was apparent that Pete Conrad was having considerable
difficulty attaching that test patch of sail cloth to the
Apollo telescope mount strut. He finally succeeded and then
called it the most work of the EVA. The flight surgeon confirmed
that, said Conrad's heart rate reached 150 during that period.
We appear to be nearing the end of this EVA. Pete Conrad
talked about retrieving the DO24. That's the thermal control
coatings experiment. He will bring in one of the two panels
that is out there. The other panel will be left for an
EVA on a future manned mission. With the retrieval of DO24
that would wind up the tasks on the EVA other than stowing
the equipment they have retrieved back into the airlock
module and getting themselves and the umbilicals and other
equipment back in. We'll come back up just prior to Goldstone.
At 12 hours 24 minutes, this is Skylab Control.

END OF TAPE

sl-II MC-1216/1
Time: 07:36 CDT, 26:12:36 GMT
6/19/73

PAO This is Skylab Control at 12 hours
36 minutes. Skylab coming up now on the Goldstone acquisition.
We'll stand by for this pass.

PLT You want to take this tree?

CDR Hey, Paul.

PLT What?

CDR The same thing applies here, right?

The OWS is higher than we are, right?

PLT Yeah.

CDR Why don't I just go to open?

PLT Yeah.

CDR Okay. Whenever it equalizes it'll

open.

PLT Yep. I can hear it coming down.

CDR Yeah. I can feel it on my ears.

CC And Skylab, we've got you over Goldstone,
in the stateside pass, here for about 10 minutes.

CDR Roger. We're in up, complete.

CC Okay. We'd like to know if you're through
using the VTR. We're set up for real-time. And ENCO can
dump the tape recorder.

PLT Yes. We're done with it.

CC Okay. And Joe, depending upon what
your time-scale looks like, if we can power up for some VT -
for some S052 white-light to take a look at it, we'd appreciate
that. But that depends on your timeline and we've got a
procedure standing by, if you'd like us to read it to you.

PLT Okay. He's doing post EVA, Rusty. He'll
get back to you when he can.

CC Rog. No sweat.

PLT Okay. They've got a month to look at it.

CC Negative. We don't get the downlink.

CDR Yeah. That's right. We want to verify
that we got that thing off.

PLT You're right.

CDR Yeah. Not at all. The OWS hasn't equalized
yet, anyhow.

SPT Okay, Houston. (Garble), go ahead.

CC Okay, Joe. You can just do it as we're
calling it out, if you want.

PLT Right. Go ahead. I'll relay for him.

CC Okay. We want the fine sun sensor door to
open, and verify that's open and then go into experiment
pointing mode.

SL-11 MC-1216/2

Time: 07:36 CDT, 26:12:36 GMT

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02210

CC And following that, we want to - -
SC Wait. Wait a minute.
PLT Are we still dumping?
CC I think that's - Stand by on that. It
looks as though we're about 6 degrees out of attitude,
presently. Hold on - Why don't you just press on and we'll
get back with you?
PLT All right. So the fine sun sensor door's
open.
CDR Paul.
PLT What?
CDR Let me give you the hammer.
SPT Rusty, just as we came up on Sunrise on
this pass, I was looking out the window, and I noticed ATM
go into an attitude maneuver. At the time, I assumed it
was the 3rd dump maneuver, but maybe it overdid itself.
CC Okay. We're looking at it right now.
CDR Where do we go? The suit donning
stations?
PLT Yeah.
CDR Okay.
SC Uh-oh. Go ahead.
CDR Yeah. That's down here. Now, wait a minute.
Do we turn the DAC on? I think so. Yeah, for Mi51. Well, I'm
half way there. I'm going to rocket over there and turn it on.
Ha-ha. There's some film left anyhow. They want that.
PLT Well, I'm not going to be down there
for awhile.
CDR You aren't?
PLT Nope.
CDR Well, I'll hold it (garble) - -
SC I'll get it, when I get done.
CDR Matter of fact, it's only 15 percent left.
PLT Are you done, Joe?
PLT Well, how about - No, no, no, with
this SO52 thing?
SPT Well, how about staying on my umbilical
then, and I'll go below. Can you put that some place?
PLT Where is the strap it was on? There.
CDR Well, it does say push button on. There's
not going to be much film, but go ahead, when you come down.
PLT All right.
CDR Okay. Rusty, are you there?
CC Yes we are.

SL-11 MC-2116/3

Time: 07:36 CDT, 26: 1:36 GMT

6/19/73

CDR Okay. My appraisal of looking at the orange on the sail, is that other than slightly flat, it has not lost its original color at all.

CC Okay. Understand. It's just like the screen has gone off it, but about the same color.

CDR That's my appraisal, yeah.

SC Yep.

CDR Yeah. PRESS SELECT to OFF and doff the gloves.

PLT Okay. Are you supposed to go press select off, first?

END OF TAPE

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SECRET

SL-11 MC1217/1

Time: 07:43 CDT, 26:12:43 GMT

6/19/73

SC (garble)
CDR What?
SC (inaudible)
CDR (garble) here with Rusty (garble) we used
a hammer and a feather out there today and did some good with
both of them.
PLT (garble) 2.
CC Okay, Joe, we can proceed on now. We're
back in solar inertial. We - what we did was a CMG reset there
right at the last maneuver. We ended up in the CMG reset
maneuver.
SPT Guess that I can get off.
CDR Yes.
CDR Why is this thing being so stubborn?
(garble)
PLT Okay, to a - Wait a minute. I got Sun, and
I'll go to EXP and I'm there and press on.
CC Okay, just go ahead and point to sun center
and we want to turn the 52 main power ON and the door OPEN.
PLT (garble)
CC Okay, Joe, then after you get the door open,
we want to go the mirror position to TV, the SYNC generator
to PRIME, and the WLC TV power ON.
CC And, of course, we'll need you to select
whichever monitor you bring it up on on the video switch
for us.
PLT I'll select MON 1 cause it's already on.
CDR Well, that wasn't too bad for a couple
of amateur EV-1 and 2s, seeing that's not our regular role.
Now 1 plus 36 sounds (garble).
CC Roger. 1 plus 36 sounds very good to me.
SPT I thought I was especially good in my
new bit part in EV-3.
CDR Plus we had to keep using him on though.
CDR EV-3. What are you up to?
SPT (inaudible)
CC And, EV-3, we can reset that ACS ALERT light,
if you'd like us to.
SPT That's a CMG malf and no sweat.
CDR Are your switches and doors (garble) Did you
set the DOOR OPEN?
CC Okay, Joe. and we - -
SPT Let's see, you've given us the DOOR OPEN two
times now, and it's - it's going white and then going back to barber
pole. I suspect we may be more 5 or 6 minutes off, although
the fine Sun sensor doesn't think we are.

SL-11 MC1217/2

Time: 07:43 CDT, 26:12:43 GMT

6/19/73

CC Okay, Joe. Did you reenable power to the door? I guess that's about the only thing I can think of right off the bat. And how long does it stay white before it goes back to barber pole?

SPT Not too long - 4 or 5 seconds. I did enable the prime to reenable the primer and motor per the procedure, and indeed I have a barber pole talk back, which tends to verify that. Auto doors, normal. Main power is on. I've gone from fast scan to standard mode.

CC Okay, and do you have a mirror to - to TV WLC power on? Remember it has a 90-second warmup there, so we may not see anything right away.

SPT Yeah, but that's got nothing to do with the door not - not coming open. The door ought to come open. I'm going to command it closed just to - and it, you know, immediately goes barber pole again.

PLT Why?

SPT No, I'm going to command it open again.

CDR We'll hold at our present configuration.

SPT (garble) in it's stayed white and it's still white in the (garble) (garble)

PLT (inaudible)

SPT It went back to barber pole then, Rusty.

CC Okay. Stand by on it, Joe. Why don't you press on, Joe. Let us take a look at it here, and we'll get back to you.

SPT Wait, wait, Paul - Paul, hold it. (garble) strung out. (laughter)

SC (laughter)

CDR That's funny. (laughter)

CDR I was waiting for you to let go and whistle (garble). (laughter)

CDR Hey, Rusty, you there?

CC Yes, sir, go ahead.

CDR We'll hold right here in our (garble) until you get that 8052 door open. I hear another (garble) coming. Don't get too far (garble).

CDR Oh, (garble) serious. Can you get the door? (garble)

CC I hope that we can disregard that on you.

SPT Hey, Rusty.

CC Yes, sir, we've got you on TV real time right now down there in the OWS. Go ahead, Joe.

SPT I - I've opened the H-Alpha 2, and we are far from being sun centered. So let me manually zero the fine sun sensors, which is what our problem was all along during (garble)

SL-11 MC1217/3

Time: 07:43 CDT, 26:12:43 GMT

6/19/73

CDR

The wedges get off scale?

SC

(inaudible)

CDR

Yeah.

CDR

I'll tell you - when in SI I get (garble).

When I moved hanging on to that canister.

END OF TAPE

SL-II MC-1218/1
Time: 07:51 CDT 26:12:51 GMT
6/19/73

CDR Canister.
SPT Yeah, the up-down fine Sun sensor is gone stick - sticking on me here, Houston. I'm going to have to drive it way off.

CC Okay, understand you tried to rezero those - the wedges there. We concur with that. Looking at the (garble) Sun sensors they both indicate that you are in fact Sun centered. So, let's try rezeroing, and hopes that works.

SPT Okay. The up-down wedge had that peculiar problem in it where you have to drive it clean off the Sun then back on. And it's coming.

CC All right. There is some suspicion you may be on the back side of the wedge.

SPT I know, but it was stuck before.

CC Okay.

CDR Yeah, we'll get it.

SPT I think we are on the front side now Houston. Now try to open that door again.

SPT Okay, the door is open, I've got a ready light. I'm centering up. And let me select white light coronagraph. And go to TV position.

CC Okay, we've got it right now. And it looks like it's gone. It looks like a very good job guys.

SPT Of course.

CC There is a little bit of trash floating around out there, but other than that, it looks great. Isn't that something?

CDR Okay, I think there's trash floating around there, because even in SI, when I was out there hanging on that canister, the railing that's on that canister, I moved that canister. And if there is anything loose inside there again - like, I think, when we first saw all those things after docking and everything, we just - whatever was floating around in there we just knocked loose. And I think I should include - -

CC Okay, by the way, Joe, you can go ahead and close it up now and you can take it right back to the configuration it was in, that is SI with all the doors closed, the sink generator off and the WLC power off. And we're about to get LOS here over the states, and we'll be picking you up over Vanguard at 13:03.

CDR Fine.

CC Bye, bye. Good job guys.

CDR Thank you. Pleasant thought. Okay. (garble)

PAO This is Skylab Control at 12 hours

SL-II MC-1218/2

Time: 07:51 CDT 26:12:51 GMT

6/29/73

34 minutes Greenwich mean time. Mils station has loss of signal. Vanguard will acquire in about 9 minutes. The airlock was being repressurized as we first acquired through Goldstone. Pressure was up to about 4 pounds at that time. The EVA clock here is stopped, it shows total duration for the EVA of 1 hour 36 minutes. That's the duration that was passed down from the crew during this stateside pass. We do not have a hatch closing time. The hatch was closed prior to acquisition, but based on crew comments, the duration of the EVA was 1 hour 36 minutes. Also during this pass Pete Conrad gave his appraisal of the parasol. He said that the sheen was gone from the material, but it had not lost any of its original color. We'll come back up prior to the Vanguard pass. At 12 hours 56 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 12/19/1
Time: 08:02 CDT, 26:13:02 GMT
6/19/73

PAO This is Skylab Control at 13 hours
2 minutes Greenwich mean time. Skylab coming up on the
Vanguard, now. We'll stand by.

CC Skylab. We've got you at the Vanguard,
gateway to South Atlantic anomaly, for the next 6 minutes
or so.

SC Roger, Rusty. For your information, the
OWS temperature rose to about 80.5, almost 81. Is that
(garble)?

CC Okay. We think that's probably because
the aft heat exchangers were off. Thank you.

CC And at your leisure, we're sending up a
message here to the teleprinter regarding doing an S183
run later today. And you can breeze over that sometime
within the next hour, and we'll get a pad up to you if you
want to do it. That's up to you.

SC Roger, Rusty. Is that for me to do?

CC I'm not sure who is scheduled - yeah,
it is scheduled for CDR. And it's your decision on it, Pete.
Right now, the message that you're going to get says something
about 17:45. But we think we can probably do it earlier
than that, if you'd like.

CDR Okay. Well, I'd like to give it a try,
if it's running that magazine, because I never did figure out
whether I goofed up by shutting the power off in the middle
of the (garble). I don't think I did, but never did figure out
what happened.

CC Okay. Fine. We'll be ready.

SC (Garble).

CDR That must also be called T027.

CC Okay.

SC Is that correct?

CC Yes, that is correct.

CDR Okay. No - no strain.

CDR We're trying to run it at 23:00.

CDR Got a question for you, Rusty, real
quick, if you've got the photo people there. We used up
the magazine transporter 05 on suit donning. And we've
got to the part where we're just getting ready to do our zippers,
to take our suit off, and I want to know if you want the
rest of that? If so, I think you can use transporter 07
or either the 1 in A2 or A3. And I know that they're
scheduled for something but if you've got some film
for me real quick, let me know before we start, and I'll put
it on.

CC Okay. We'll get right back to you on it.

SL-11 NO-1219/2

Time: 02:02 CDT, 24:23:02 GMT

6/19/73

CC Okay. And for your information, we've got the RNO ON in the CBRN 15, and it's looking real good.

CDR Very good.

CC And, EV-3, we're going to go ahead and set your ACS ALERTER light here. We've got another one on from a reset routine.

CC Okay, Pete. We've been looking around and we can't find any film that's going to be appropriate for you to use. So just go ahead and get out of the suits. We'll just miss that. And be advised that during the next dump we expect, because of the momentum situation as it is now, that we may see another reset routine coming in. So you can be prepared for that one.

CDR Okay.

CC Okay, Skylab. We've got LOS here at the Vanguard in about another 15 seconds. And we'll be picking you up next at - -

CC Okay. Goldstone at 14:16.

CDR Rog. And when's the next EVA?

CC The next one's going to be when you jump into the water, or at least out onto the carrier. Don't break your neck.

CC Okay.

END OF TAPE

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242700

SL-II MC-1223/2

Time: 09:39 CDZ, 26:14:39 GMT

6/19/73

CC Whenever you're ready for it, you call
us and we can get to it.

CDR

Okay.

CC

PLT, Houston. The configuration on the

ATM looks good.

CDR

You say something, Crip?

CC

uration on his ATM looks good to us. He remarked about it
after close-out.

END O. TAPE

SL-II MC-1224/1

Time: 09:48 CDT 26:14:48 GMT

6/19/73

CC Skylab Houston, 1 minute to LOS, Hawaii at 15:50, 15:50. And we'll be doing a data recorder dump over Hawaii.

PAO This is Skylab Control at 14 hours 51 minutes Greenwich mean time. Skylab is beyond range of the Vanguard antennas now. Next station to acquire will be Hawaii in about 59 minutes. The crew has not yet been given a GO to rotate the parasol the 15 degrees as suggested by Pete Conrad. The decision on that is expected to be made today. As of now, there has been no decision on that. We've just received a weather report in the landing recovery area, that we'll read to you. The space flight meteorology group of the National Weather Service said this morning that weather conditions are expected to be satisfactory for the landing and recovery of the Skylab astronauts Friday morning. The landing area located about 800 miles southwest of San Diego, California will have partly cloudy skies, northeasterly winds at 15 knots, wave heights of 5 feet, and a temperature of near 67 degrees. We'll come back up prior to Hawaii acquisition. At 14 hours 52 minutes, this is Skylab Control.

END OF TAPE

Active volc.

SL-11 MC-1223/1

Time: 10:48 CDT, 26:15:48 GMT

6/19/73

FAO Skylab Control at 15 hours 48 minutes and 12 seconds Greenwich mean time. We have just received the AOS call here in Mission Control. We have acquisition of signal at Hawaii, and will remain live for air-to-ground. CC Skylab, Houston. AOS Hawaii for about 6-1/2 minutes.

SC

Roger.

SC

Roger, Houston. The PLT's a little confused about the message reference in the shopping list item on WREPP deactivation number 2711, which appears to be one of tomorrow's, that we haven't got yet.

CC

That's right, Paul. We're probably going to send that up at our next station passage at Vanguard.

PLT

Oh, okay. Well don't get the impression that I'm standing here waiting for it. I just wondered what the story was. Thank you.

CC

Yeah. That's also true of the - They're talking about day-27 stowage message and that's going to be coming up later, too.

PLT

Okay.

CC

If you guys could, we'd kind of like to get an idea where you're at in the timeline, today.

SC

If you say please.

CC

Pretty please.

CDR

CDR is stowing S1 - S082A and B. I've completed the rest of the stowage.

PLT

SPT is finishing out the suit configuration on all three suits. And the PLT - I left my checklist down there, but - What'd I just do, I just did something.

CC

I'll take your word for it, Paul.

PLT

Well I just dumped the LPGs for one thing. So I'm a little beyond that.

CC

Okay. Very good.

CC

CDR, Houston. It doesn't sound like you're going to be getting there. We are uplinking a pad for that 183 pass, in case you wanted to get this night bit around 17:00. You can tell us at Vanguard whether that doesn't look like a GO, and we'll make you up another pad for later on.

CDR

Well go ahead and uplink it for later on, and if I get there, I get there, if I don't, I don't.

CC

CDR, correction on my last. We did send you the pad. However the C&Gs are doing something a little bit weird on us. They don't appear to be dumping to the correct momentum state. So we don't want to go and inhibit momentum dump currently. So do not execute that 183 pad.

CDR

Okay.

SL-11 MC-1225/2

Time: 10:48 CDT, 26:15:48 GMT

6/19/73

CDR Houston, SPT. PCU numbers 13 and 10 were used. I'm saying that because you're dumping my tape recorder. And that tells you where I am in the checklist.

CC Rog. PCU 13 and 10.

PLT And the PLT just turned the page in his EVA checklist to find out that he's done.

CC How about that.

CDR Hey, Crip.

CC Go ahead.

CDR I don't think I'm that far behind, because I've eaten lunch.

CC Oh, we don - we don't think you're behind.

You're way ahead.

CDR Okay. Well, I'll, like, keep pressing on here.

CC Okay. No, I - Don't get the idea we're trying to rush you or anything. You guys are way ahead of where we had anticipated. We're just trying to find out roughly where you're at. By the way, we need somebody to lock the star tracker on for us, if you would please.

SC Okay. I'm going back up to stow this checklist, I'll get it.

CC Okey-doke.

SC Star tracker shows locked on up here, Bob.

CC Rog. Apparently it's on a particle or something else. What we'd like you to do is to go to gimbal angles of outer of plus 1550, and inner of plus 0394.

SC Oh, okay. That's inner of 394 plus and outer of plus 1550.

CC That's affirm.

SC When I recover from my power-down situation, here, I'll do it.

CC Okay.

CC Skylab, Houston. We're 1 minute from LOS. We'll have you again over Vanguard at 16:18 - 1, 6, 1, 8. An item of interest over Hawaii there, we do have an active volcano on the big island.

CDR All right. Are we over it right now?

CC Oh, yeah. You're a little bit to the east of it now, I think.

SC How about next pass?

CC Next pass is a good one to look at it. I'll remind you of it then, and we have got that EREP pad up for Paul.

SC Give us an overhead sign of the volcano at Vanguard, if you can. And we'll see if we can't get a

SL-11 MC-1223/3

Time: 10:48 CDT, 26:15: GMT
6/19/73

300 millimeter on it.

CC

Okay.

SC

Which one is it Crip.

SC

Hey, have we got a star?

CC

Rog. You've got a star.

SC

Which volcano, Bob? Do you know?

CC

Kilauea. And it's going to be at

around 17 - probably around 17:30.

PAO

Skylab Control at 15 hours 57 minutes and 32 seconds Greenwich mean time. We have lost signal at the Hawaiian Tracking Station, and expect to acquire next in 20 minutes and 21 seconds at Vanguard. During this last pass, we got a status report from the crew on how far along they were in completing the stowage of the equipment and configuring the suits and LCGs after the EVA, this morning. They indicated they are quite well along in their procedures. They were also told about an active volcano Kilauea, on the Hawaiian Islands - in the Hawaiian Island chain. They were to the north - to the northeast of the Hawaiian chain in this pass. At their nearest point they were directly east of Hawaii and several hundred miles away. They will be considerably closer during the next pass as they go to the southwest of the Hawaiian Island - Hawaiian Island chain. And they will get an exact time. The estimate now is about 17:30 or about 12:30 p.m. central daylight time. They should be close enough. They indicated they may use the 300 millimeter lens on their Nikon camera. Nikon 35 millimeter camera to photograph that active volcano. This is Skylab control at 19 minutes and 9 seconds before our next acquisition of signal.

END OF TAPE

SL-11 MC-1226/1

Time: 11:16 CDT, 26:16:16 GMT

6/19/73

PAO Skylab Control at 16 hours 16 minutes and 34 seconds Greenwich mean time. We are 1 minute and 25 seconds from acquisition of signal by our clock in Mission Control, at Vanguard Tracking Ship. And we will stay live for air-to-ground.

CC Skylab, Houston. We're AOS over the Vanguard for about 10 minutes.

SC Roger, Crip.

CC Rog. And I guess the situation on that momentum that you're interested in is that we think perhaps that we got a bad N2 in the dump because of the star tracker being blocked on a particle or something. And - So we're going to take a look at it on this next dump cycle, before we decide when we're going to do the 183 thing.

SC Okay.

SPT Houston, SPT.

CC Go, SPT.

SPT I'm stumped. What do we ultimately do with our EV gloves. I don't think we bring them home, do we?

CC We'll check it out for you, Joe.

SPT Thank you.

CC SPT, Houston. I'm informed that you can consider your EV gloves trash. And dispose of them accordingly through the trash airlock.

SPT Okay.

CC Wouldn't hurt to wait a couple of days on that, though.

SPT Thank you, sir.

SC You still there, Houston?

CC Affirmative. We've got about 2-1/2 more minutes.

SC Oh, okay. Can you have someone, quickly, confirm or deny on my EREP tape recorder photo unit, it says use the Nikon with a 95 millimeter lens. Now, before I start looking all over for that 35 millimeter lens, would you confirm that in fact is the lens they want me to use?

CC Okay. We'll check it out for you, PJ.

PLT And if it is, (Garble) how about seeing if anybody knows where it is.

CC I'll do that also.

CC Paul. Regarding your question. Yes that is the lens they want you to use. It should be located in one of the dome lockers, 416. It's a close-up lens.

PLT Yeah, I just found it in the storage book, Bob. I just wanted to make sure I understood you before you went over the hill.

CC Rog, yeah. And incidentally, another

SL-11 MC-1226/2

Time: 11:16 GMT, 26:16:16 GMT

6/19/73

subject, Paul. I was informed, today, that all of the voice from Channel B was lost during your M509 checkout yesterday, so we didn't get any words that you put on there. We did understand you to say the whole thing was okay. But if there were any other significant comments, if you get a chance today, you might put them back on B-Channel.

PLT No, I gave that to Rusty last night or this morning. There wasn't any on B channel because E didn't say anything.

CC Ah hah, okay. Well, that's good, yeah. We did get your summary on air to ground, so fine.

PLT Okay, good enough. Yeah, I just sent a checklist mode that says to be recorded when I got back. I turned it off last night.

CC Okay. Fine and dandy. We're about 30 seconds from LOS. We'll see you again at Hawaii at 17:25, 17:25. We'll be doing a data recorder dump at Hawaii. And incidentally, that's the pass where you might get a look at that volcano if it's visible.

PLT What time?

CC 17:25 is when I - you on AOS. You'll probably be overhead at around 17:30.

PLT Check.

PAO Skylab Control at 16 hours 28 minutes and 26 seconds Greenwich mean time. We have lost signal at the Vanguard tracking station, and will not acquire again until Hawaii in 56 minutes and 26 seconds. During the morning, the EVA being completed well in advance of the expected time, a number of pads or preadvisory data sheets were sent up to the crew on the teleprinter suggesting things that they might do today with the extra time that they will have available. One of those pads was for S183 requesting a 4th run on that S183, or ultraviolet panorama experiment. That was sent up following the EVA this morning. S183 is the ultraviolet panorama experiment conducted for a French researcher from the laboratory of space astronomy in Marseille. The UV experiment studies hot stars distributed throughout the Milky Way by obtaining color indexes of more than a thousand stars in our galaxy. Using photographic and 2 spectral bands, detailed classification of stars can be provided for comparison with existing theoretical models. The experiment uses the small airlock on the side of the orbital workshop opposite the Sun. To place the S183 spectrographic camera equipment in the end of the antisolar scientific airlock, the crew must first remove the sample array from T027, that's the TM contamination measurement experiment, which measures the effect of contamination on optical surfaces like those

SL-11 WG-1126/3

Time: 11:16 CDT 26:16:16 GMT

6/19/79

used on the solar telescope. That T027 contamination experiment with its more than 200 samples has been in the antisolar scientific airlock for 2 days. S183 has been run 3 times before. The crew brought new film in the command module to replace that aboard the space station. Ground personnel felt that the high temperatures aboard the workshop before the parasol was deployed might have damaged the very sensitive ultraviolet film. The new film including film slides and 16 millimeter film - Our new film is believed to have caused the carousel portion of the camera to malfunction on its second of its 3 runs. During the third run only the 16 millimeter data acquisition camera was used. The ultraviolet panoramic experiment has both a still - slide type camera and a data acquisition 16 millimeter camera. Today's run will be made using the old film which has precision-machined carousel slides rather than the hand-machine slides that were carried up as new film. It is believed that those new machine - hand machine slides may have caused the malfunction in the camera. They will run it today even though they don't believe that the old film will be useful for gathering data. They do believe that it will tell them whether or not the malfunction was caused by the slides that were taken up - the hand-machine slides that were taken up. In the coming pass 53 minutes and a half from now, over Hawaii we expect the crew to attempt to try - attempt photography of Kilauea volcano using their 300 millimeter telephoto lens and Nikon 35 millimeter camera. They expect to be at their nearest point to Hawaii at approximately 12:30 p.m. central daylight time, at 17:30 Greenwich mean time. Hawaii is northeast of the ground track on 520th revolution, and they will attempt to do some hand-held photography, at least that's the opinion here on the ground now. Meanwhile our flight controllers are very busy working on additional things that can be sent up on what is called the shopping list. These are optional experiments that can be conducted today. Due to the fact that they have several hours in addition to the time that they expected to have because of the EVA being both shorter than expected and being completed much earlier. It began approximately an hour before they expected it to begin. This is Skylab Control. Our next acquisition of signal in 52-1/2 minutes. Skylab Control at 32 minutes and 33 seconds after the hour.

END OF TAPE

S054 Lock

SL-11 UC-1225/1
Time: 09:39 CDT, 26:14:39 GMT
6/19/73

PAO This is Skylab Centre! at 14 hours
39 minutes Greenwich mean time. Skylab coming up on acquisition at Vanguard now. We'll stand by for first call.

CC Skylab, Houston; AOS Vanguard 8 minutes.
SC Okay, Crip. ATM configuration for stowage
is complete if you all want to take a look at it.

CC Okay, Paul Appreciate it.
CC Skylab, Houston. We're in the process
of trying to get you a message up before we leave Vanguard
here. It concerns some items that you can add to your
shopping list. Today you guys were so efficient and did
such a good job in such a rapid pace that we figure you're
going to run out of things to do today. We have sent these
up. They are to be done, more or less at your leisure, if
you can get them in. And that's the priority you should
put on them. There - What this one message alludes to a
couple of other messages that you don't have onboard. One
of them is about updating the day-27 transfers. That's
pretty lengthy and we're still working on it. Another one
talks about some EREP things for deactivation. Those are
not to be done, of course, until we finish up the other EREP
stuff that Paul has for today. So those would be later on
today.

SC Okay. (garble) S83 experiment (garble)
get to it in just a second.

CC Okay. Nine. Pete, there is one item
that you might need that isn't on there and we would normally
send up on the pad. And that is the magazine to use.
I can give you that number now, if you want to copy it down
for a future reference.

SC (garble) 183 magazine 1-1.

CC That's the carousel. The magazine is
Uniform ALPHA-03, India 15.

SC That's the same one as before, right?

CC That is correct.

CC You probably noted that that is a
different carousel than the one you used last time.

SC That's the original one.

CC That's affirmative.

CDR I think we got to bring both carousels
back, is that correct?

CC That is affirmative.

CC And we did get that message up on the
shopping list. So that's in your teleprinter. Also, there's
one dealing with a little malfunction procedure. We'd like
CDR to run on S009 later, today.

CDR Okay. I don't know when I'm going to
get to your command module MALP, you sent up last night.

SL-11 NC-1221/1

Time: 09:13 CDT 26:14:13 GMT
6/19/73

PAO This is Skylab Control at 14 hours
13 minutes Greenwich mean time. Skylab is coming within
range of the Goldstone station. We'll stand by for acqui-
sition there.

CDR

Sorry, Houston, are you there?

CC

Rog. (garble). We're here for 11 minutes

over Goldstone.

CDR

Okay, I got a lot I want to tell you

about on S054 today.

CC

Go ahead.

CDR

Okay. The S054 door lock, film door
lock, would not lock. So it's only held by the magnetic lock.
So I unlocked it, and it would no way move after that. And
I tried and tried, and you'll hear it on the late tape.
And I couldn't get it, but I wanted to make sure that I
knew what I was doing. So I was checking the rest of the
doors, and they all work fine. And for some reason it just
decided to bind up in the pins retracting position on that
door so the magnets are the only things that are holding
it. But, they are very strong magnets, so I wouldn't worry
about that door. I don't believe that it is ever going
to open until it's pulled open.

CC

Roger.

CC

And, CDR, Houston, while we're talking
here - We're currently working on a message which involves
some changes to your day 27 transfers. So in case you were going
to try to get into any of that stuff early, be advised that
that will be coming up.

CDR

I couldn't imagine that the day 27 transfers
would go the way they were written.

CC

I figured you were thinking like that.

As a reminder to the PLT - he's mentioned something about scorching
on the outside, and he said he wanted us to remind him of
it so he could talk about it later.

PLT

Yeah, Crip, the MDA and the thermal cur-
tains, which were formally white, are both very yellow now.
They are very yellow. Not only that, but you can see every-
thing that's between the surfaces and the Sun, because there
is a perfect outline of it. So it must have all happened
in the 28 days we've been here. I tried to get some pictures
of the MDA with the DAC while I was out there. I don't know
if they will come out or not. But - I mean that it is almost
brown it has changed color so much - the MDA, especially around
the STS. And as you go forward to aft on the MDA, the discolor-
ing gets darker.

CC

Okay, very good, Paul. We copy that.

SL-II NC1220/1

Time: 08:14 CDT, 26:13:14 GMT

8/19/73

PAO This is Skylab Control at 13 hours 13 minutes Greenwich mean time. Vanguard has loss of signal. There will be a long LOS prior to acquisition at Goldstone. One hour and 2 minutes before Skylab is back within range of a tracking station. The crew has completed a very successful extravehicular activity, which lasted 1 hour 36 minutes. The battery is fixed, CBRM 15, providing an additional 240 watts of power. The brushing of the S052 occulting disc appears to have been successful. We operated that experiment real time. Took a look at it through television. The contamination is gone, no longer visible as a bright spot at the 4 o'clock position. The ATM experiment film canisters have been retrieved. A very successful 1 hour and 36 minutes. We'll come back up just prior to Goldstone. At 13 hours 15 minutes, this is Skylab Control.

END OF TAPE

SL-11 MC1227/1
Time: 12:23 CDT, 26:17:23 CDT
6/19/73

PAO Skylab Control at 17 hours 23 minutes and 4 seconds Greenwich mean time. We are 1 minute and 55 seconds from acquisition of signal at Hawaii and we will stay live for air-to-ground there. We're expecting the crew to possibly do some hand held photography of Kilauea volcano in Hawaii. This volcano is presently active, and they indicated they may use their 300 millimeter telephoto lens to take some photographs of that with the 35-millimeter camera. They will also be doing some trouble shooting here of a short circuit in the radiator heaters of the command module. We'll discuss that following the pass. There is a short circuit in one of - in the radiator heaters and they will be throwing a couple of circuit breakers to test where that short circuit is occurring. This is Skylab Control remaining live for air-to-ground at Hawaii.

CDR Roger.
CC You talking about an unattended OPS (garble).
CC Can I just hold up on that then and - Or - -
PAO Skylab, Houston. AOS Hawaii. 10 minutes.
CDR Roger, Houston. S183 is installed; T027

is out. Be advised that when I pulled it out, it collected quite a bit of moisture on the SAL end of that. And I put the plate on, and I'll pop a vacuum on it. The - the SAL is decreping right now with #3 in it.

CC Roger, Pete. Should be able to - you think you'd be able to do that 183 OP this next sunset then?

CDR No, I've got this LJO9. Is that the next one? You mean it's - - What are we doing - coming into daylight or going into darkness? I don't know where we are.

CC You're just now coming into sunup here. We would like to replace that D008 you had with 183 if we could.

CDR Okay, is this pad that I have good?

CC Okay, fine. Did you get that last pad, the one that we were unable to do on the 183. I was just going to read you some times on it, because we're going to be unable to send you a new pad.

CDR Well, it was 1630. You mean inhibit momentum dump or you want to do that later, of course?

CC Yeah, - -

CDR And the - -

CC If you've got the pad handy, I've got some new times that I'd just like to read those to you.

CC Go ahead.

CDR Okay, momentum inhibit at 18:07. And you can - the 183 OP time would be 18:17. Start exposures at 18:22. Enable momentum dump 18:46. And sunrise will be 18:41 for stopping.

SL-11 MC1227/2

Time: 12:23 CDT, 26:17:23 GMT

6/19/72

CDR Okay, and then the rotation of 308.5 and the tilt 072 for starfield 155 plate 05 is good. Right?

CC Roger. We may end up having to change that rotation due to a Na update, depending on what our momentum dumps, but the other numbers are good.

CDR Okay, you want me to drop D008. We'll catch that later on today in the anomaly?

CC Negative on that.

CDR All right, let me tell you something else about T027. The - the thing was apparently very cold up in the front end, and when I torqued the inner knob all the way down it did not close the little door over the front of the (garble) completely because it kind of ground to a halt. I said, you know, up and down sort of tight and I did, but that didn't close the little door all the way. So it got some moisture inside, I suspect, also. But my question is, I've got to pull a vacuum on that end. Would you like me to back it off just a tad to open the little door inside a little bit so that the vacuum gets all the way in there? Or does it just get all the way in there anyhow?

CC I'll check on that, Pete.

CDR Okay.

CC While we're checking if - apparently we've lost the star again. Guess we got a lot of trash floating around outside, and we're - we're wandering off. So if somebody could get that for us, we'd appreciate it.

CDR Okay, we'll get it in a minute. We're looking for Hawaii. Are the numbers still good?

CC Roger, 31 is the time of closest approach, which is going to be about 3 min - 2 minutes from now. Also - -

END OF TAPE

SL-11 MC-1228/1

Time: 12:28 CDT, 26:17-28GMT

6/19/73

CC - - 31 is time of closest approach, which is going to be about, oh, 3 minutes - 2 minutes from now. Also was wondering, y'all had that message on the CSM coolant valve that we'd like to run. We've got another 6 minutes here if - But we would like to get that run either here or Vanguard, which is our next pass. Vanguard's probably more appropriate since we're getting close. We're going to be at Vanguard at about 57. Do you think we might be able to do it then?

CDR Yeah. I can do it now. Let me see if I got it in my book, I think. I'm on my way to the command module.

SC Hey, Crip. I need some clarification on these tape recorder photos, too.

CC Rog. We'll try to get that clarified. Can I give somebody some gimbals for star tracker?

SC In a couple of minutes, Bob.

CC Okay. Why don't you go ahead and tell me your question on the tape recorder?

SC I don't understand what the keyed area of the black clamping ring is.

CC Okay. I'll see if I can get some experts to tell us.

CDR Okay I'm on the secondary coolant loop, on the ECM indicators and such, cm rad heaters stuck with switches off and ECM RAD heater PRI switch is off. (garble) ECS coolant loop heater control MAIN A- (garble) has been open.

CC Okay. We copy. We'll sit there for a moment.

CDR Well, it's always open. It's open per the checklist.

CC We just wanted you to verify, that's all, Pete.

CDR Okay.

CC Okay. We can go on step 2 there for that ECS pri RAD control MAIN A.

CDR Rog. It's OPEN.

CC Okay. Now we're going to monitor the temp valve.

SC Go with gimbals, Crip.

CC Rog. Inner is plus 0400, outer is plus 1200.

SC 1200, wow.

SC (garble).

CC Okay, Pete. If you'd go ahead and close that breaker and open up B. MAIN B.

SL-II MC-12:28/2

Time: 12:28 CDT, 26:17:28 GMT
6/19/73

CDR

(Garble) MAIN-B is open.

CC

Thank you. We'll look at it.

CC

Okay, CDR. You can go ahead and close

that one also. And that didn't solve our problem. Thank you.

CDR

Okay.

SC

Crip, I think I can get this 2008 done,

why don't I press on with it?

CC

Rog, Pete. You option. The only

thing we were indicating was the 183 had priority over it. And for your information, that method revising your dav-27 stowage transfers is in the teleprinter.

CDR

Okay. How long is it?

CC

Three of our pages. About 150 lines.

CDR

Oh, Heavens.

CC

Okay, Skylab. We'll have LOS in about

1 minute. We'll have Vanguard at 17:57 - 1, 7, 5, 7. And Paul, we haven't got a clarification on that message yet. And we'll try to get that for you over Vanguard.

PLT

Okay. Good enough. I just don't know

what it is, Crip. And if anybody explains it to you, I suggest you try to get hold of a picture of it.

CC

Okay. Apparently nobody here does either.

CDR

Hey, Crip, you going to send up more

183 pads. You want more of them done today?

CC

We're going to try and get a clarification

on that. We're talking about doing one. But it would be in your presleep activities. And there's some question as to whether we can do it unattended or as requires - requires somebody there. But we do not want to remove it. Definitely do not want to unstow. We'll probably unstow it tomorrow morning.

CDR

Okay. I don't mind running it tonight,

if you want.

CC

Okay. Appreciate it.

PAO

Skylab Control at 17 hours 35 minutes

and 32 seconds Greenwich mean time. We have lost signal at the Hawaiian Islands Tracking Station, and do not expect to acquire again until Vanguard, 21 minutes. During this Hawaii pass, Commander Conrad reported to space communicator, Robert Crippen, that S183, the ultraviolet panorama photographic equipment had been successfully placed in the anti-solar scientific airlock. And T027, the ATM contamination sample collection, had been removed. Meanwhile, Dr. Joseph Kervin closed and opened circuit breakers for systems that might have been responsible for a short circuit in the system controlling the radiator heaters for the command module's

SL-11/MC-1228/3

Time: 12:28 CDT, 26:17:28 GMT

6/19/73

secondary coolant loop. The report here on the ground after opening and closing two circuit breakers was that they had no joy, that there was no success in finding the short circuit there. The reason they noted there is a short circuit in the system is that the temperature indicator on that - in that radiator heater loop is giving them a reading about 70 degrees. That's no concern. Temperature is quite satisfactory. But it does indicate that the system is operating. It should not be operating, the heater switch has been thrown off, and that temperature transducer should read, off-scale low. Off-scale low is the reading that they get when they do not have it operating. Now, while the temperature remains at 70 degrees or in the upper ranges, there is no concern at all about the operation of that system. That area is in the Sun and the radiators are considerably warmer than would cause any problem. When the radiators become very cold - or that temperature transducer becomes very cold, then it's necessary to turn on - then the heaters become - turn on automatically. So if the temperature on the radiator should become very cold, and that temperature transducer should go below the desired level, the radiator heaters would come on. However, the coolant loop is not operating now. And for that reason, the heaters would heat up coolant only in the immediate vicinity, and it - there's concern that should that happen, there would be a break in the coolant line. It would overheat and it would boil and would pop the coolant line at that point. Secondary coolant loop is not an essential part of the system. It's not in operation now and would not be used again. However, during the return to earth and during the reentry period, the secondary coolant loop might become - the radiators might become too cold. The heaters might turn on, and should that happen we might have a blow-out on that secondary coolant loop. For this reason, the ground support people are investigating possibilities for avoiding that. One of those possibilities is to bypass the radiator. This is a difficult procedure because it requires a crewman to get out of his seat in the command module after they undock and to move down below the seat to switch the - switch it to bypass radiator. That's a difficult procedure that requires extra time and effort, and it's - believe they won't use that. The other possibility is to leave the coolant loop operating and - in which case as soon as they separate - as soon as they have separation, all of the coolant will flow overboard. That causes no problem. It's a possibility that's most seriously being considered now, in the event that they are not able to find the short circuit in the system. So during this last pass, they did attempt

SE-11 MC-1228/4

Time: 12:28 CDT, 26:17:28 GMT
6/19/73

to discover where the short circuit - why the short circuit was occurring, by switching a couple of circuit breakers and adjacent electrical systems. They found no benefit from that. They still are getting readings on the temperature transducer. There is no immediate emergency due to this. But they will be looking into it and they may have to consider dumping coolant overboard at the time of separation. They have now prepared a Flight Plan for this afternoon. And it indicates that S183 operations are to begin approximately now. And they indicated that they would allow Captain Conrad - Commander Conrad to operate on D008, if he wanted to pre - If he preferred to do that. That was scheduled for later today, but he had begun the procedure. They indicated that S183 operations were considered to be very important. And those were to begin as soon as possible. At the same they are doing closeout. The pilot will be doing closeout of the EREF equipment, and should have approximately completed that at this time. There is an ETC, Earth terrain camera inspection scheduled a little later this afternoon, by the science pilot. That should begin shortly. And S183, after its operations are completed, will be stowed later in the afternoon before the presleep activity begins. Other than that, a relatively little left to be done today. The crew has completed a very busy day, doing much more than originally was expected. In fact, an unusual occurrence, they had to revise the Flight Plan and present a revised Flight Plan after the EVA was completed at approximately 12:37 Greenwich mean time or 17:37 this morning, well in advance of the original schedule. This is Skylab Control at 40 minutes and 48 second after the hour. Our next acquisition of signal in 15 minutes and 48 seconds.

END OF TAPE

SL-II MC-1229/1
Time: 12:54 CDT 26:17:54 GMT
6/19/73

PAO Skylab Control at 17 hours 54 minutes
44 seconds Greenwich mean time. We are now approaching
acquisition of signal at the Vanguard tracking ship, and
expect to acquire signal there in approximately 1 minute
and 46 seconds. We will remain live for air to ground from
Vanguard.

CC Skylab, Houston. We're AOS over Vanguard
for about 7 minutes.

SPT Roger, Houston. The (garble) dosimeter
has been changed. What was wrong with it?

CC Apparently the power supply on it they think -
with it failed from down here.

CC And if - for Pcte's question regarding
the T027, we want to go ahead and do it per procedures. The
only thing - you might try just tightening that knob in case
there was a little ice on it or something, so that it might go
ahead and tighten up now. Close up the cap.

CDR I got it tight after I came in. See
I tightened it down per the procedure while I was in the air-
lock, and I thought I had it snug tight. And that's because
it was real cold. Well, then as soon as I pulled it in,
frost froze on everything. And I took a look down at the
front end as soon as I got it in, and I could see that it
wasn't all the way in. So I went and really bent my arm
into it and by golly by really putting my arm into it I
got the door all the way closed. So that's the way it turned
out, but unfortunately I think it has warm moist air all over
it.

CC Okay. Well, that's fine. You can go
ahead and evacuate it. We don't need you to open it back
up to do that.

CDR

Okay.

CC

Okay. And for PJ I think I can try to
explain what the people wanted on that tape recorder photograph.
And while I'm waiting for Paul to get there, we're going to
inhibit orbital plane error update, because we've been having
(garble) problem with the star tracker. So if you would stay off
the DAS for a minute, we'd appreciate it.

CDR

Okay.

CC

Okay, and that's been done. So the DAS is
yours again. And PJ, are you in a position to listen to
me describe this thing on the tape recorder?

PLT

Okay, I'm looking at the tape recorder.

CC

Okay. Was your question in that first
paragraph about the keyed area, the black clamping ring?

PLT

Precisely. I don't know what

that is.

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SL-II MC-1229/2

Time: 12:54 CDT 26:17:54 GMT

6/19/73

CC Okay. The lower reel carrier, that bottom black portion where the reel goes on.

PLT Yes.

CC Okay. The keyed area is just those metal pins sticking out of it - the chrome colored pins.

PLT Is it two that stick brightly up and mate it with the reel hub or the three that go out on the side to engage the reel?

CC Three on the side to engage the reel.

PLT Okay.

CC All they really want you to do is - if you just get a photograph of that area from head on, I think that would just about get what they wanted.

PLT Oh, that's why I couldn't figure it out. Because they want it at this area which, with three pins equally spaced around it, you can't get it all in one shot. And in the next shot they want was one vertically down. I'll do my best.

CC Okay. Yeah, but you see where that split is in the ring, chrome ring, just above it?

PLT Yeah, but that's split, Bob. That ring floats on it. I can put that split anywhere I want it. No, you're right, you're right. That split winds up with another locating pin in there. Okay, now I'm (garble). Now I (garble)

CC Okay. If you just get it from there, I believe you can get it.

PLT Yeah, all right.

CC Basically that number 2 is the same one of the top ring.

PLT Okay, now do they want them tight, or loose, or does it matter?

CC It does not matter.

PLT Okay.

CC And CDR, if you can copy for 183 because of Nx, we need to add plus 8 degrees to your rotation.

CDR Plus 8.

CC That's affirm.

END OF TAPE

SL-11 NC1230/1

Time: 13:02 CDT, 26:18:02 GMT

6/19/73

CC East via rotation.

CDR (garble)

CC That's affirm.

CDR 315.5, right?

CC That is correct. CDR, also, in reviewing

your recommendation regarding rotating the parasol; you have a GO to do that. It's a simple procedure I'm sure you're familiar with. It's just a matter of taking the lock off and rotating it. We would recommend that you mark it such that we could return to the original position if there is any question about it.

CDR Okay, we will.

CC Skylab, Houston. We're about 1 minute from LOS; be a long LOS. We'll see you again at the Vanguard at 19:35;1935.

PAO Skylab Control, at 18 4 minutes and 45 seconds Greenwich mean time. We have signal at the Vanguard tracking ship and will not require signal for nearly an hour and a half when we will again be acquired by Vanguard. This is another pass that skirts the edge of our Ascension tracking station and goes between Guam and Hawaii, thus missing all of the stations with the exception of the tracking ship stationed in the South Atlantic off the Coast of South America. This is Skylab Control at 5 minutes and 16 seconds after the hour.

END OF TAPE

SL-11 NCI231/1

Time: 14:32 CDT, 26:19:32 GMT

6/19/73

PAO Skylab Control at 9 - -
PAO Skylab Control at 19 hours 37 minutes
45 seconds Greenwich mean time. We have just heard the
warbler signaling acquisition of signal to come at
Vanguard in approximately 1 minute and 30 seconds. We will
remain live for air-to-ground. There is a press conference
tentatively scheduled for 2:45 a - 2:45 p.m. Central daylight
time with flight director Milt Windler and Rusty Schweickart
the spacecraft communicator for this morning's EVA. There may
be a third member at that press conference. We don't have
any information on the third - possible third attendee. This
is Skylab Control remaining live for air-to-ground from Vanguard.

CC Skylab, Houston. AOS at the Vanguard for
9 minutes.

CDR Roger.

CC Hi there, I hear you guys have been having
fun today.

CC Skylab, Houston. If it's convenient to
anybody we need momentum dump enabled. If it's not convenient,
you just let us know and we'll command it.

PLT It will be done.

CC Roger. And - -

CDR (garble)

CC Okay. Thank you, much. And Paul, I've
got a question for you and it has to do on your - on the
shopping list we sent up to you about the S073 film stowage.
Have you already done that?

PLT Pete already did it. He's on the bike
right now. Can he call you back when he's done?

CC Yeah, no problem. If he's already done
it no problem anyway.

PLT Okay.

CDR I'm finished, Dick. (garble) you want to
talk?

CC Sorry, there was a loud squeal and I didn't
catch that one. Say again, please.

CC Skylab, Houston. Somebody said they thought
you had said on the last one that I didn't copy. What - was
anything wrong with the S073 stow? The answer is negative.
What I was going to say was is if you hadn't done it, the
very last step in the procedure is you put the photometer
back in the switch container and that piece of equipment is
also used on S149 which we'll be using tomorrow. So it might
have saved you some time not to put it back in there but
either way we're all set I guess.

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SL-11 NC1331/2

Time: 14:32 CDT, 26:19:32 GMT

6/19/73

CDR (garble) the S073 also. I took the shortest (garble) and stowed it and hooked up the regular cable. Is that the way you want to run tomorrow?

CC Roger. Let me check that one.

CDR Say again.

CC Roger. I'll get back to you on that one.

Stand by.

CC Skylab, Houston, for the CDR, that's affirmative. That's okay to go ahead and use the regular cable.

CDR Okay.

CDR Hey, Dick. Also we rotated the sail about 12 to 15 degrees. (garble) those testers up around the water tank that were looking hot.

CC Real good, Pete. Thank you very much and that'll probably help us out.

CC Skylab, Houston. We've still got about 3 more minutes here at the Vanguard and then after this pass we're going to have a pass at Ascension for about 9 minutes. And sometime in these two passes we'd sure appreciate it if you'd let us know what items on the shopping list you have gotten done and what you think you will have done this evening so we can crank into our - for our tomorrow's plan as soon as possible. But either one of these two passes would be just fine. We got 3 minutes left, standing by.

CDR (garble) the CDR got the 183 DAC in the airlock closed vacuum, ready to go again. And the S073 (garble) no (garble) and that (garble) S009 is still in the command module.

CC Roger. Thank you, CDR.

SPT And the SPT on - Whatever they were, I did them all, Dick. (laughter) I did the ETC photograph and the stowage lift changes and whatever else you gave me.

CC Okay, Paul, for you I had an IMSS 1, a VABD, replacement and stowage backup date. I'm sorry, that was for Joe, but I think that's who was talking to me anyway.

SPT Ah, yeah, that's who was talking to you.
What was an IMSS 1? I didn't see that.

CC Stand by just a second.

CC Joe, the IMSS 1 is environmental sampling of the vehicle.

SPT Oh, okay, we'll accomplish that.

CC Okay.

END OF TAPE

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2272

SL-II MC-1232/1

Time: 14:43 CDT, 26:19:43 GMT
6/19/73

CC - - sampling on the vehicle.
CDR Ch. Okay, we'll accomplish that.
CC Okay.
PLT PLT will have everything done before
retiring for the (garble)
CC Roger, Paul. Thank you very much. And
the only question we had from that was for Pete, who is
furiously riding the bike and who we keep asking
questions of. On the S009, you said you stowed it. Did
you do the malfunction procedure? Or if you didn't, do
you figure you'll get to do that this evening?
CDR I can't find it. I took it out, folded it
up, and stowed it.
CC Okay, Pete, we'll chase it down. And
if the piece of paper got lost, we'll be glad to send it
back up to you if necessary.
CDR Okay, but it doesn't have anything to do
with - something rocking the motor - not the S009 case (garble)
CC That's affirmative, Pete. The mal
was on the motor. We've got about 30 seconds left here at
Vanguard. And we're going to see you at Ascension at 19:48.
CDR Okay.
PAO Skylab Control at 19 hours 45 minutes
and 4 seconds Greenwich mean time. We have just lost signal
at the Vanguard tracking station, and expect to acquire again
in 2 minutes and 25 seconds at Ascension. At this time
the spacecraft is in its 522nd revolution about the Earth,
taking a period of approximately 1 hour 33 minutes and
15.7 seconds. Its maximum altitude is 242.6 nautical miles,
with a minimum altitude of 228.9 nautical miles. Mission
Control's retrofire officer has now completed detailed cal-
culations on maneuvers for Friday morning's return of the CSM
and Skylab's first three crew members. The command module is
scheduled to undock at exactly 3:45 a.m. central daylight
time with the space station over the north Pacific about
1200 miles north of Hawaii. Separation, using the small
reaction control system jets for 23 seconds beginning at
4:40 a.m. exactly central daylight time, follows. The
separation burn will slow the command module 5 feet per
second or about 3 miles per hour, moving it behind the
space station after it has completed its fly around of the
Skylab orbital workshop and associated areas. As the CSM
slows, it will move into a lower orbit and pass beneath the
Skylab cluster. The separation takes place over the Indian
Ocean some 2000 miles due south of the Malagasy Republic or
the island of Madagascar. Following separation at 5:05:30 a.m.
Friday, that's central daylight time, the main engine or

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service propulsion system will be fired for 10 seconds to soar the spacecraft an additional 264 feet per second, or about 180 miles per hour, putting it in an orbit 233.6 nautical miles or approximately 269 statute miles at its high point and 90.7 nautical miles or 104 statute miles at its low point. This orbit-shaping maneuver will be conducted over the Philippine Sea 600 miles east of the Philippine Island of Mindanao. The final burn, requiring a 7-second retrofire of the main engine, slowing the command module another 190 feet per second or about 130 miles per hour, will be made at 8:10:43 a.m. over the northern most area of Thailand near the Burma border. We are now within range of the Ascension tracking station, and will remain live for air to ground from Ascension.

END OF TAPE

SL-III NC-1233/1

Time: 16:48 CDT, 26:19:48 GMT
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CC Skylab, Houston. We're AOS at Ascension for the next 8 minutes. He advised we're going to command the vehicle then to experiment pointing mode. And the ATM officer's going to take over unattended operation of the ATM. when we get to Guam. And I guess the next manned one, will be when Beano and the guys get there in SL-III.

SC

Okay.

PLT

Next time the star tracker locks call

Beano.

CC

Roger. (Laughter).

CC

And, Skylab, Houston. Is somebody available to go to the STS Panel, we have data. We'd kind of like to do the REG POT adjust that we'd planned to do for the mission. And the request is, REG BUS 1, adjust 15 degrees - 1, 5 degrees clockwise.

CC

And this should cause the PCC-1 to increase

about 5 amps.

PAO

Skylab Control. This is a clip.

SC

Good, now what (garble) - -?

SC

(Garble 53).

CC

Thank you and we're looking at the data

now.

END OF TAPE

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SL-II MC-1234/1

Time: 15:12 CDT, 26:20:12 GMT

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PAO Skylab Control at 20 hours 12 minutes and 39 seconds Greenwich mean time. During the last pass over Ascension we interrupted the air-to-ground in the middle of the pass and started to bring you a press conference being conducted in Building 1. And we have recorded that the remainder of that pass over Ascension, and will now play back the air-to-ground. Here is the air to ground from Ascension.

CDR I rode my bike up here (garble)
Now what did you want (garble) REG BUS 1 15 degrees, right? Clockwise.

CC That's right. REG BUS 1, 15 degrees clockwise, and no adjustment required on REG BUS 2.

CDR Okay, there's 15 degrees.

CC Thank you, and we're looking at the data now.

CC Skylab Houston. For the CDR we have uplinked again the S009 malfunction message. That is in the teleprinter now. And I have a message here that I would like to read to all three of you guys, if you are in a listening mood. It reads: To the crew of the Skylab space station, Charles Conrad, Joseph Kerwin, Paul Weitz. We sincerely congratulate the courageous crew of the Skylab astronauts on your achievements in conquering outer space. Wishing you successful completion of your program and safe return to our beautiful blue planet Earth. On behalf of the team of Soviet astronauts, signed Vladimir Shattilov.

CDR That was very nice, we appreciate it very much.

CC Roger Pete. Thank you much, we'll pass it on.

CC Skylab Houston. On the REG adjustment - the EGIL says I guess on the number of degrees was slightly too much. We'd like you to go about 5 degrees counterclockwise on REG BUS 1 please.

CDR Okay. Have you got it - you still have out of the teleprinter?

CC Stand by.

CDR I tried to slew it and it wouldn't slew (garble).

CC Roger. The INCO says the teleprinter is yours.

CDR Thank you.

CC Skylab Houston. We're about 30 seconds from LOS. We're going to see you at Guam at 20:32, and we're going to dump the data recorder at Guam.

CDR Okay Richard. I'll run this S009 malf tonight sometime. And I think another S182 pad, and I'll run that tonight. Thank you.

SL-11 NC-1234/2

Time: 15:12 CDT 26:20:12 GMT

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CC Hey, very good. And the EGIL is very
happy with that REC adjust. Thank you very much.
CDR Okay. And how does the CRBM (sic) 13 look?
CC He is super happy about that one.
CDR That's good. So am I.
CC One question we did have as we go over
the hill, we're assuming that all your power system alert
lights are off now.

CDR We'll take a look at it.
CC Okay, if we miss you we'll get you
at Guam. How many times did you have to rap with that
hammer?

PAO Skylab Control at 20 hours and 16 minutes
Greenwich mean time. That concludes the air to ground re-
corded over Ascension including the message from cosmonaut
Vladimir Shattilov delivered by Spacecraft Communicator
Dick Truly during the Ascension pass. We'd like to repeat
for those of you interested in them the exact times of
docking, separation, shape and retrofire for the Friday
morning splashdown. Undocking will occur at 8:45 Greenwich
mean time or 3:45 a.m. central daylight time exactly. Sep-
aration at 9:40 GMT, or 4:40 a.m. central daylight time
exactly. The shape burn will occur - this is an orbital
shape burn - will occur at 10:05:30 Greenwich mean time, or
5:05:30 a.m. central daylight time. And the retrofire
burn will occur at 13:10:43 Greenwich mean time, or 8:10:43
a.m. central daylight time. Following retrofire burn
23 minutes later approximately the spacecraft will reach
the - command module will reach 400,000 feet. And landing
is scheduled to occur at 13:49:57 Greenwich mean time.
The spacecraft will take more than 23 minutes to reach the
400,000 foot level. Splashdown at 8:49:57 a.m. central
daylight time will occur approximately 830 statute miles
southwest of San Diego California. That's 830 statute miles
southwest of San Diego California. The predicted impact
point is 24 degrees 46 minutes north latitude, 127 degrees
4 minutes west longitude. To repeat, the predicted impact
point for an 8:49:57 a.m. central daylight time splashdown
on Friday morning is 24 degrees 46 minutes north latitude
127 degrees 4 minutes west longitude. That splashdown
point is 830 statute miles southwest of San Diego California.
An odd station there is the USS Ticonderoga, which is presently
conducting exercises of practicing for that Friday morning
splashdown. This is Skylab Control. Our next acquisition
of signal 13 minutes and 33 seconds from now at the Guam
tracking station. Skylab Control at 18 minutes and 37 seconds
after the hour.

END OF TAPE

SL-11 MC-1235/1
Time: 15:30 CDT, 26:20:30 GMT
6/19/73

PAO Skylab Control at 20 hours 30 minutes and 14 seconds Greenwich mean time. We're now 1 minute and 43 seconds from acquisition of signal at the Guam Tracking Station. And we will remain live for air-to-ground and a call from spacecraft communicator, Dick Truly. This is Skylab Control remaining live for air-to-ground.

PAO Skylab Control. We have acquisition of signal at Guam, and are live for air-to-ground.

CC Skylab, Houston; AOS at Guam for 9 minutes.

SC Roger, Dick. Say, I noticed on that 27-day stowage update, we're only bringing back 19 rolls of film, and I would like to strike for the crew to have a 400-footer for their own. That - We've got some things that we'd like to do with it and bring it back, if nobody objects.

CC Roger, Pete. Let us check on that one, and confirm that that's okay. Stand by.

SC Yeah, and if they're really generous we could use two.

CC Okay.

CC Skylab, Houston. For the CDR. In answer to your question. Affirmative. You guys can have two 400-foot rolls and do good work with them and bring them home if you see fit.

SC Okay. Thanks very much.

CC Roger, Pete.

CC Skylab, Houston. A couple of items. One, we'd like to have the MPC inhibited please. And the second one, back on the two 400-foot cassettes for your use, we do request that you get two of them out of drawer Bravo. And just tell us on Channel B, or air-to-ground, whenever you decide - preferably air-to-ground, which two you pick, so that we can do our own cassette planning. Thank you.

SC Roger.

CC Okay.

CC Skylab, Houston. We're about 1 minute from LOS. We're going to see you at Vanguard at 21:11, and that Vanguard pass is scheduled as the evening status report.

SC Roger.

PAO Skylab Control at 20 hours 42 minutes Greenwich mean time. We have lost signal at the Guam Tracking Station and expect to acquire signal again at the Vanguard Tracking Ship, in South Atlantic, in 29 minutes and 13 seconds. This is Skylab Control at 42 minutes and 15 seconds after the hour.

END OF TAPE

SL-II MC1236/1

Time: 19:59 CDT, 20:20:59 GMT

6/19/73

FAO Skylab Control, at 20 hours 59 minutes and 25 seconds Greenwich mean time. At the present time we're still 12 minutes from acquisition of signal at Vanguard, but we have received some early information on the effect of that parasol rotation that was performed sometime before 2:40 p.m. central daylight time - sometime before 19:40 Greenwich mean time, a little over an hour ago. At that time, acting on the advice of Commander Conrad, who had been outside and had viewed the sail, he indicated that one of the rear poles that's used to hold the sail up - it has four extendable poles - one of those poles was not fully deployed, and that was the reason for a hot spot on the orbital workshop. This is a rather minor problem, but it had created some temperature in that area, during the entire mission, that's nearer one of the orbital workshop water tanks. Because he had noticed that, he indicated that a rotation in the counterclockwise direction from inside the workshop should move the sail over the hot spot and cover it up. And the rotation that he advised at that time was a 15 degree rotation. After some consideration by people here on the ground, that was approved. And before 2:40 p.m. central daylight time today, they did that maneuver. It was reported done at 19:40 GMT at Vanguard during our last revolution. After that event took place, the electrical general instrumentation and life support systems engineer, the EGIL, here in Mission Control, and his support team both here at Johnson Space Center and at Marshall Space Flight Center, which has a computer linkup to Johnson and also communications linkups, have been reviewing the data on various temperature sensors on the orbital workshop. And they have not yet arrived at a decision as to the effect of it. The preliminary indication is that they have had some temperature increase rather than decrease, but there're very complex figures involved because of the movement of the spacecraft and the high Sun angles which allow the spacecraft to be in the Sun for long periods of time. It'll be necessary for them to go back and review individual temperature changes, day by day and revolution by revolution, to see exactly what the effect of - of that parasol movement might have been. That first indication was an increasing temperature at Vanguard over the previous location, but as I said, because of the movement of daylight and night periods and because of the high angle of the Sun right now, the spacecraft is in the Sun more than it has been in previous parts of the mission. It's very difficult to determine whether or not the temperature increase was one that would be naturally expected at this time in the mission, because of the high Sun angle, or whether it was due to the rotation of the parasol. They are at this time looking

SL-11 MC1236/2
Time: 15:59 CTT, 26:20:59 GMT
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into the problem, and they're considering the possibility of moving that parasol either part of the way back to its original position or all the way back. It's necessary for them during this time to look at individual locations of those trans - transducers and attempt to figure out exactly what may have happened when they moved the parasol and what - how far the parasol has been moved and what its original location was. So when they have some inquiry at Vanguard regarding that, there may be some visual inspection again of the parasol. All these things are just contemplated now, but there is some immediate concern, because the only temperature indication they had was an increase, and they are not yet certain whether that is a normal increase and has been happening in the past or whether it was an unexpected one and one which indicates that the parasol movement was not a desirable thing. Because temperatures increase quite quickly when an area is exposed to the Sun, and it takes a long time for them to cool down. When on the inside of the workshop, they're concerned that this be done rather quickly. And certainly it will be completed before the crew goes to bed tonight. This is Skylab Control. This is an advisory information only. We do not have a definite idea of what the temperatures are, and we expect to hear something on that, though, in the next hour or so. This is Skylab Control at 3 minutes and 26 seconds after the hour. Next acquisition of signal a little less than 8 minutes from now at Vanguard. Skylab Control at 3:33 after the hour.

END OF TAPE

SL-11 NC-1237/1
Time: 16:10 CDT, 26:21:10 GMT
6/19/73

PAO Skylab Control at 21 hours 10 minutes and 3 seconds Greenwich mean time. We have just heard the warbler announcing acquisition of signal to come at Vanguard Tracking Ship, in approximately 1 minute and 11 seconds. At that time, we should hear some discussion, possibly, of the parasol movement and we may have some indication of what the crew will be asked to do about that. This is Skylab Control, we will remain live for a call from Dick Truly, the spacecraft communicator, at Vanguard. Skylab Control, remaining live for air-to-ground.

CC Skylab. Houston; AOS, Vanguard for 11 minutes.

CDR Hello, Houston. CDR, with the evening status report.

CC Roger, Pete. Standing by. Go ahead.
CDR Okay. The CDR ate everything, including his asparagus, for the last time. We all had this, this is terrible. And two butter cookie cans. The SPT ate everything except one coffee with sugar. And the PLT ate everything except item 75, bread. And he had a DELTA-H2C of 0.5. And he had 9 optional salt. And the photo status for today 170 as it follows: M151 EVA donning, Charlie India 1600, Charlie India 14; EVA Charlie India 15, 55, Charl India 12, with the remark that transporter 02 had end of film light on because 85 percent remaining outside and it did continue to count down, so we assume it's good. M2016, EVA film removal, Charlie India 09, two balls, Mike Tango 03; Mike 487 4 Echo, Charlie India 1332, Charlie India 10; Mike 4874 Foxtrot, Charlie India 06, 00, Charlie India 03; The 35 millimeter status is Charlie India 31, Terrain count 41, Charlie India 32, 19; 70 millimeters, Charlie X-ray 06, 103. There was no ETC EREP and the drawer A configuration is as follows: A-1 02 Charlie India 15, 55, Charlie India 12; A203 Charlie India 06, 00, Charlie India 03; A3 06 Charlie India 13, 32, Charlie India 10; A405 Charlie India 16, 00, Charlie India 14; and floating is 07 Charlie India 09, two balls, Mike Tango 03. And you have all the additions to the Flight Plan that were completed. The deletion was the 008-1. And that's about it. Over, to you.

CC Roger. We got all of that. Thank goodness to the miracle of tape recorders. And thank you very much, Pete. We've got a couple of other things I'll be coming up with for you in just a second.

CDR Okay. We rotated the sail back a little bit, because the PLT and the SPT found that their bedroom walls (laughter) were beginning to get hot, so we probably over turned it a little and we step - backed her off to what we think

SL-11 NC-11377
Time: 1611G CDT, 2021:10 GMT
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is the right amount now, and we'll check the walls in a little while.

CC Okay. Real fine. Thank you.

CDR Yeah, well, we went back up and looked at what we done. It looked like we rotated at about 25 degrees instead of about 15, so we backed off 10, and we may back off a little bit more.

CC Okay. Just let us know, Pete.

CDR Well, I think it's about 15 right now, but it's by eyeball and we can feel it on the wall very easily where the line is, and we'll get her ironed out to where - and I also think it is getting cooler up by the water ring on the other side of the vehicle.

CC Skylab, Houston, we've got a momentum situation that's unfortunately going to make us change our flight plan that we had talked to you tonight about S183. We're building up momentum in X and Y and we don't want to get into a situation where we spend the TACS, so unfortunately, regrettably, we would like to scrub the 183 pass for the next night cycle, and right now we would like you to go up and enable the momentum dump so that we can get a good dump this night pass. And if there are any other requests we have for you tonight about 183 I'll be getting back -

END OF TAPE

SL-11 MC-1138/1
Time: 16:16 CDT 26:21:16 GMT
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CC - - so that we can get a good dump
this night pass. And if there are any other requests we
have for you tonight about 183 I'll be getting back to you
in just a minute or so.

CC And we have just about a minute or
so before the momentum dump starts, and so we need the
momentum enable as you get it please.

PLT It's enabled.

CC Thank you much.

CDR I don't mind staying up 15 - 20 minutes or
so. And I've got it all cranked up and all ready to go.
so why don't you crank out a pass for the next night pass.
How about the star tracker, is it good?

CC Stand by.

CC CDR Houston. Star tracker is good now.
We're not sure it still will be after we do these dumps,
but we'll be getting any changes back up to you when we
have to.

CDR Okay, this pad I've got here is just
until 23:00, and inner gimbal 394, outer gimbal 1717. You
want to update that?

CC Stand by, Pete, I'll get right back to
you.

CDR Right now, I'm reading 407 and 1419.

SPT Houston, SPT.

CC Roger SPT. Before you say anything, Joe.
we're not going to read you a new star tracker gimbal angles
at this pass. We may have one for you coming up later though.
Go ahead, Joe.

SPT Roger that. IMSS-1's completed.
Is there any objection to my doing IMSS-2 this evening?

CC Stand by.

CC Skylab Houston. We're checking on IMSS-2,
we'll get back right away with you. And we think we can
make some minor changes to the S183 that we uplinked - the
S183 pad that we uplinked a while ago. And we're going to
have a long Ascension, Canary, Madrid pass after this Vanguard
LOS. And we should be able to get you those changes, if
you're willing to stay up and do it next night cycle.

CDR Yeah, I am. And also be advised that
I do show a Bat pole barber pole while I'm on CBRM 15.

CC Roger.

CDR Then I show reg volts on 17.

CC Say again on 17, Pete.

CDR Reg volts, but I think that's been with
us since that funny regulator.

SL-1-1110/2

Time: 16:16 CDT 26:21:16 GMT

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CC

Roger, concur.

CDR

But the bat charger light's out and that (garbled) it just shows the bat volts barber poled on 15 and reg volts barber poled on 17.

CC

Okay, Pete. Thank you very much. We're about 45 seconds from LOS. We're going to see you at Ascension at 21:29. And for the SPT, are GO on IMSS-2 tonight if you'd like to do that.

PAO

Skylab Control at 21 hours 22 minutes and 54 seconds Greenwich mean time. We have lost signal at Vanguard tracking station. We expect to have a signal again at Ascension at about 5 minutes and 30 seconds. During the Vanguard pass, we did hear a call from the crew. They indicated that they had noticed the problem of temperatures rising on the spacecraft, particularly in the sleeping compartment and that essentially confirms what was believed by people in the "untsville Operations Support Center and those in the Johnson Space Center. We were reviewing the material. Apparently, there are several sensors which have showed a substantial increase in temperature. Temperatures inside do not increase very much because of the relatively quick action of the crew in moving the sail to a new position. But there were increases in the sleeping compartment and the experimental compartment ceiling temperatures of about 2 to 3 degrees. The temperature reading now in the sleep compartment is about 80.8 degrees, as of the Vanguard pass; in the experimental compartment, there are readings of 82.7 and 83.3 degrees. Now those, of course, do not reflect atmospheric temperatures in the entire workshop, but it does indicate that there were some temperature increases in those transducers of the ceiling and wall. Those were generally the highest reading temperatures inside the workshop in previous periods during the heat - high heat periods. The problem apparently occurred because of the movement of the parasol to approximately 25 degrees counterclockwise rotation. And the crew indicated that they thought they had overshot the mark. Originally, they had intended to go approximately 12 to 15 degrees. They thought that probably turned out to be 25 degrees and they did move it back clockwise 10 degrees in order to reduce those temperatures in the sleeping compartment walls. And they said that they would use their own judgment as to whether or not that was satisfactory and they will feel - feel the walls again to see if they are continuing to heat up. We're about 3-1/2 minutes from acquisition of signal at Ascension. During the coming pass, the long pass from Ascension continuous through Canary Islands and Madrid. At Madrid, we have scheduled a product medical conference

SL-11 MC-1118/3

Time: 16:18 CDT, 20:21:18 GMT

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PAO the daily medical conference to report the physical condition of the crew. And during that period we will hear no signal over Madrid. We do expect that as in past times we will get some period of that - sometime before the Madrid pass is completed, we may get that back for live air-to-ground from Mission Control. We have now approximately 3 minutes to acquisition of signal at Ascension and to the beginning of that very long pass from Ascension through Madrid and we will remain live from now until acquisition of signal at Ascension in approximately 2 minutes and 50 seconds. This is Skylab Control at 25 minutes and 4/ seconds after the hour, remaining live for air-to-ground at Ascension.

END OF TAPE

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21-11 001139/1
Time: 16:23 GMT, 26:11:33 GMT
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22007

CC Skylab, Houston. We're AOS at Ascension, Canary and Madrid for the next 13 minutes. Be advised, the first several minutes of this pad that we'll pass we'll have air-to-ground, and then when we get Madrid AOS - when we hand over to Madrid, we're going to conduct the med conference. And then if you get through talking, we'll turn it back over to me for the remainder of that pad, and I should be then have some 183 pad changes for Pete. If we do miss - miss it, though, at Madrid, we still have a Guam pass that's prior to sunset and enough time to read the time changes on that pad.

CDR Okay.

CDR Say, Dick; CDR.

CC Go ahead.

CDR We're back to our old VOX again. You guys are going to have to tell us what UCTA you want us to use on day 29, because I just checked; they're not in A-6. We put 6 up in the locker, and all 6 of them have WLC on them, which I guess means with lithium chloride. So if there were any in there that didn't have any lithium chloride in it, they must have gotten used by us on launch day; the second set that we used or something.

CC Okay, Pete. Let me check with our stowage folks and make sure they understand your question, and either way we'll get back to you and advise you what we want you to do.

CDR Okay.

CC Skylab, Houston. In about a minute or so, we're going to be handing over to Madrid, and at that point we'll - you'll be getting a call from the surgeon. And when you get through, we'll talk to you again in Madrid, probably.

CC And also, Skylab, the EGIL says that he's happy with the present configuration on the CBRM 15, and before we do anything else to figure out about that barber pole, if we ever do, we'd like to think about it some more. So we're happy.

CDR We're happy too, Houston.

CC Roger.

END OF TAPE

SL-11 NC-1240/1

Time: 18:37 CDT 26:21:37 GMT

6/19/75

PAO This is Skylab Control at 21 hours 38 minutes and 10 seconds Greenwich mean time. We've just had handover to the Madrid tracking station, and the private medical conference is now underway. We do expect that the doctor will return control of the air-to-ground to Mission Control Center, and that should happen sometime during this Madrid pass. For that reason, we will remain live for air-to-ground for Madrid at the completion of this private medical conference.

CC Skylab, Houston. We're going LOS here at Madrid. We're going to see you at Guam at 22:19. Correction, 22:09. We're going to dump the data recorder at Guam; and, Pete, we're going to have a brand new S183 pad to up-link to you at Guam.

CDR

Okay.

PAO This is Skylab Control at 21 hours 44 minutes and 36 seconds Greenwich mean time. We have lost signal now at the Madrid tracking station. Our next acquisition of signal in 24 minutes and 48 seconds will be at Guam. And that will be a 7 minute and 24 second pass at Guam. This is Skylab Control at 44 minutes and 57 seconds after the hour.

END OF TAPE

SL-11 RC-1241/1

Time: 17:07 EDT, 22:22:07 GMT

6/19/73

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220000

PAO Skylab Control at 22 hours 7 minutes and 43 seconds Greenwich mean time. We are 1 minute and 47 seconds from Acquisition of signal at the Guam tracking station. The spacecraft is passing to the southeast and it will be to the southwest of the Guam Islands. This is Skylab Control. We'll remain live for air-to-round and a call from spacecraft communicator Dick Truly.

CC

Skylab, Houston, AOS at Guam for 7 minutes.

PLT

Oh, if you're at Guam we must be at Guam, too.

CC

I sure hope so. I got an answer for the CDR on this question about UCTAs. The proper UCTAs to use are ones that do have lithium chloride in them. And we think that they can be found per an earlier conversation that we had many days ago in D426. And if they aren't there, they probably are still in the CDR's sleep compartment, but we think they're in D426.

PLT

You're right.

CC

How about that.

CDR

Okay, Dick. I got another one for the stowage people I have put on B channel, but just to make sure you get it - the broken TV camera, I understand is stowed in D6, which I assume is the old SOL5 experiment compartment - in the command module. That's number 1. Number 2 - I've taken the lens and found the old lens bag which I have stowed and the lens covers, and I have stowed the lens in F521, but also, I have stowed the monitor and the power cable and the monitor cable that came off that camera unless they want me to do something else with it.

CC

Roger. I understand the monitor and the power cable and the monitor cable also are in the F521. Is that right?

CDR

That's right. Now, later on in the day, I see that and I take the other TV camera off with me and - go ahead and mount it in the command module and I will probably find some way here what to do with the power cable off of it. If not, it will be in 521 also.

CC

Okay, Pete.

CDR

And you are sending me an S183 teleprinter message, right?

CC

Skylab, Houston. Affirmative. We just uplinked a brand new message and it had a whole bunch of times and stuff changed in it, so we figured we'd just give you a fresh copy.

CDR

Okay.

CC

And, CDR. About the only thing on that pad that requires kind of fast action is we - is the momentum

AL-11 NO-124172
Time: 17:07 CDT, 26:22:07 GMT
6/19/75

Inhibit that's to be done - like right away.

CDR Okay.

CC And, the only reason on that - we kind of wanted to see that over this Guam pass.

CDR Okay, Dick. I got momentum INHIBITED. Right?

CC Roger, we confirm. That's right. You're in the right configuration.

CDR Okay.

CC And Skylab, Houston. The EGIL reports that he can already see the change from your second adjustment on the parasol. On some of his temps - the water tank 1 temps, of course, will take a lot longer to show any change in.

CDR Roger.

CC Skylab, Houston. We're 1 minute from LOS here at Guam. We're going to see you at Honeysuckle at 22:23. And the controllers here are wondering how many of their backup - you're - of their backroom (garble) that you have because apparently you have both ASCOs and EGILs because in the last hour or so you've anticipated something we were getting ready to call up in a couple of cases. And you sure could save me some air-to-ground calls if you'd just let me know.

CDR Ho, Ho, and what's that? Like the star tracker just now?

CC Yes, the star tracker and you also were just ahead of the EGIL guys when you moved the parasol a while ago, too.

CC And it was in the direction that his backroom guys was going to ask for.

CDR Yeah, well when I eyeballed it I realized that I'd moved it about 25 degrees, because P.J. went to his bedroom and he says "My bedroom's getting hot." And we went over into Paul's - to Joe's which is really in the corner and that was really hot, but we said well, we over-smoked that one. We'll have to back off.

CC Roger, that. Gotta keep those guys happy.

CDR Right. But I think I've got about 15 degrees now if my eyeball's angle here is the same as my eyeball angle was outside. We ought to just cover to the meteoroid shield point on that side.

CC Okay, good. Well we'll keep - we'll still be keeping a good eye on it and we're going LOS and we'll see you at Honeysuckle.

CDR Okay.

SL-11 MC-1241/3
Time: 27:07 CDT, 26:22:07 GMT
6/19/73

PAD Skylab Control at 22 hours 17 minutes and 44 seconds Greenwich mean time. We have lost signal at the Guam tracking station and we'll next acquire a signal at Honeysuckle in 5 minutes and 17 seconds. During this last pass we had some additional data on that change in temperatures on the orbital workshop. They had gone up because the - -

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Time: 17:17 CDT 26:17:17 GMT
6/19/73

PAO - next acquire signal at Honeysuckle in 5 minutes and 17 seconds. During this last pass we had some additional data on that change in temperatures on the orbital workshop. They had gone up because of an overshooting in rotating the parasol. Captain Conrad had indicated that, he wanted to rotate the parasol about 15 degrees. He found out after rotating it that the sleep compartments had become rather warm. They were reaching temperatures of about 81 degrees inside - 81 to 83 degrees inside, and because of that, they took another look at it and decided they had rotated it about 25 degrees rather than 15. They moved it back, and the temperatures now are coming back down. On some of those temperature transducers, the change in temperatures - these are mostly external temperatures or sensors up against the wall of the spacecraft - On most of those sensors, they had increases of temperature on several of them of approximately four or five of about 40 or 50 sensors that we have on our table here. Four or five of those went up substantially in temperature over about an hour and half period, between the time they moved the parasol, sometime before 19:40 G.m.t. and 21:12, when they reported that they had returned it to its position. In some cases the temperature increases were small - 15 or 16 degrees. In some cases they were as high as 50 degrees, and these are, of course, only on temperature transducers on outside parts of the workshop, rather than internal. Those did indicate that the Sun was reaching the spacecraft, and after the sail was rotated back, we have seen drops in temperatures of - the largest drop being about 20 degrees over the last hour. Several of the others have dropped 16 degrees, and that does indicate that temperatures are coming back down in the proper direction. During the medical conference at Madrid, which is held private, the crew reported themselves to be again in excellent health. Here is the surgeon's report, signed by Dr. Buchanan; "Dr. Joe Kerwin, the Skylab 2 Science Pilot, reports the crew physical condition is still good, and they are operationally in fine condition." That's signed by Dr. Buchanan for Dr. Hawkins, the flight surgeon. At this time we are approximately 2 minutes and 46 seconds from acquisition of signal at the Honeysuckle station in Australia, and we will remain live for air-to-ground from Honeysuckle.

CC Skylab, Houston. We're AOS at Honeysuckle for 3 minutes.

CDR Roger, Houston. Be advised the cat's already out and the rest of us in work.

CC Roger that, and there's not a whole lot of

SL-11 MC-1242/2

Time: 17:17 CDT 26:22:17 GMT

6/19/73

news this evening, Pete, but there's one article here that I'd like to pass up to you.

CDR

Co.

CC

Okay. The Smithsonian Institution

researchers conducting an investigation several hundred feet below the surface off Key West, became snagged in the wreckage of a World War II destroyer Sunday. Rescuers slowly decompressed a chamber of this midget submarine trapped underwater for 31 hours, but could see no signs of life of the two men inside. The other two men in the forward compartment were pulled safely from the civilian research sub Sealink as soon as it surfaced on Monday. And it's now reported that the two scientists in the forward compartment are in excellent condition after the sub was pulled from the water yesterday. And one other note on this news item. The destroyer that the midget submarine was taking a look at on the bottom was the USS Fred T. Barry, which was scuttled a couple of years ago to form an artificial barrier reef. And the USS Fred T. Barry was - had another noteworthy experience earlier in its career, when Midshipman Richard Truly took his first midshipman cruise aboard that ship, but I haven't heard yet whether there's any correlation between that fact and the fact it was chosen to be scuttled. Over.

MS

Yea.

SPT

You got off just in time.

CC

Roger.

CDR

Say, in answer to your teleprinter message that you sent up. I have one here that I received and - do you have a minute to get it.

CC

Roger, we got about 45 seconds left in this pass. Go ahead.

CDR

Okay. It's to Captain Charles Conrad, Jr. from NASA. First paragraph reads: "On or about 22 June, 1973, you and your crew will (garble) Skylab 1, leaving it in all respects ready for the arrival of the Skylab 3 crew on or about 27 July, 1973." Paragraph 2: "At that time you and your crew will proceed by space and air to the USS Itconderoga without delay, and report immediately to the SMSL for duty."

CC

Roger. We copy that and we're looking forward to those orders being - going into effect. We're going LOS here at Honeysuckle. We're going to see you at the Vanguard at 22:51.

CDR

Okay. Pass those to Captain Bean.

CC

I sure will.

PAO

Skylab Control at 22 hours 27 minutes and 26 seconds Greenwich mean time. We have lost signal at the Honeysuckle tracking station, and expect to acquire in 23 minutes and 20 seconds the Vanguard tracking ship.

SL-17 NC-1342-73

Time: 17:17 CDT 26:27:17 GMT

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During this last pass, Richard Truly, the spacecraft communicator read up a report on the submarine that was trapped in the wreckage of a World War II destroyer, a destroyer that had been scuttled. Spacecraft communicator Truly indicated that he had been a midshipman aboard that craft, and the reply from the astronauts was, "You got off just in time." And following that, the astronauts read back a set of orders that they had concocted for Al Bean for the July 27th launch, Skylab 3, the next manned mission of Skylab. This is Skylab Control. Our next acquisition of signal in 22 minutes and 26 seconds at Vanguard tracking ship.

END OF TAPE

SL-11 NO-1243/1

Time: 17:49 CDT, 26:22:49 GMT

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PAO Skylab Control at 22 hours and 49 minutes Greenwich mean time. We've just heard the warbler announcing that we are approaching acquisition of signal at Vanguard. This is a low elevation pass lasting 4 minutes and 24 seconds approximately. And it will begin approximately 1 minute and 35 seconds from now. We'll stay alive for air-to-ground and what may be the final call of the day from spacecraft communicator, Dick Truly. We're alive for air-to-ground.

CC Skylab, Houston. We're AOS at Vanguard for 4 minutes.

SPT Hello.

CDR Hey, Richard. The reason I work so hard to stay in front of you guys is to keep from the surprises. In the F-27 day transfer I smelled a rat on the - finding the food - and sure enough, most of the lockers all had launch bolts in them. I have gotten the food that is requested to be returned. And on B channel I just put it on there as whose food I robbed when I couldn't get it from overage. Okay?

CC Roger. Got it. And we'll look on B channel and get that information.

CDR There you go.

CC And actually, that was just a plot from Bean to get you to take out the launch bolts.

CDR That's what I figured. The other thing is, in anticipation of the (garble), I think we will change the teleprinter paper tonight. It hung up several times, and be (garble) it, as you remember one time I asked you, and it was coming off the roll a little crooked and getting over to the left now, and it looks fairly low and I think we'd be better off if we changed the roll.

CC Roger. And we concur with that. Go ahead.

CDR Okay. Besides that, we haven't even gotten into the middle of Tube 1 yet and there's 87 tubes of that stuff up here.

CC Oh, it seemed to me like we must have used about 10 of those tubes the way we've been putting out the paper. I've got an answer for you on the TV cameras, Pete. The - for the broken television camera - the way you described the stowages is exactly the way that we would like it. And on the working one, the camera lens monitor - monitor cable are to come home, of course. And the - use the existing command module TV power cable for that. And leave the SWS TV power cable in - where you said, in - I think it was F521.

CDR Yes, I'll either put it there, or where it came from, which is in another one of those lockers right by there - 526, or something like that.

CC Roger. Why don't you just - -

31-12 NC-1241/2
Time: 17:45 CDT, 16:22:49 GMT
6/19/73

CDR. But I'll put it on B channel.
CC Okay, fine.
CC Also, this evening we're going to up-link - we made a couple of minor changes to your Flight Plan for tomorrow. They were based on the fact that Joe reported he was going to already have done IMSS-2. And also based on your photo report, it looked like one of the cassettes had some extra film that was left over for the EVA. And we're going to ask you to photograph M113 in the morning, which we never have done. And we're about a minute and a half from LOS here at Vanguard, and this is the last pass of the evening. We do have a - it's - I know you're going to be up. We do have a Canary-Madrid pass at 23:09, if you'd like to give us a call, but I won't call you. Also, there's two or three guys on this team that are going to see you again at entry, but for most of the guys on Chuck Lewis' bronze team, this is the last shift that we'll get to work with you guys on Skylab 2, and it's really been our pleasure, and I can guarantee you that the guys both out here in the front room and in all the SSRs have really been - done a super job. And they might even be willing to buy you guys a sarsaparilla or something when you get home.

CDR We appreciate that. We appreciate everything that (garble) runs. A great job.

CC Roger that. See you in the morning.

SPT Goodnight Capcom. Goodnight PAO,

INCO, EGIL, G&C, ATM, and all you guys.

CC Goodnight, Dick.

PAO Skylab Control at 22 hours 55 minutes and 27 seconds. We have lost signal at the Vanguard tracking station, and we have an opportunity to acquire in 14 minutes at the Canary Island station, but spacecraft communicator, Dick Truly, has given his last goodnight. He and Chuck Lewis' bronze team of flight controllers will not be on duty again during the Skylab 2 mission when the crew is awake and up. And that may be the last time they will have conversation. They did indicate that since we're a little more than 13 minutes now from acquisition at Canary, that the crew may desire to call us back. The crew did give goodnights though, and we will be up live at Canary Island in the event that they do give a call, although we do not expect one. This is Skylab Control at 22 hours and 56 minutes Greenwich mean time.

END OF TAPE

SL-21 NO-1244/1

Time: 18:09 CDT 26123:09 GMT

6/19/73

PAO Skylab Control at 23 hours 9 minutes and 7 seconds Greenwich mean time. We have just received a signal that we are acquiring signal now at Canary Islands and we'll remain live in case there's air to ground from the crew.

CDR Go, Houston, Skylab. S183 is off and running.

CC Okay, Pete. Thank you very much.

CDR How are those guys gonna make out with this Moon?

CC Sorry, I didn't copy that. How are they gonna make out with what?

CDR Well, the Moon is up and I thought that that kinda put the fritz on the S183 and S019, so I wondered how they thought they were gonna make out. Seeing the Moon is still about two thirds of the way up.

CC Roger. Well, whatever corollaries says next, I'll pass on to you.

CC Skylab, Houston. I'm advised that premission we did intend to operate not, you know, with the bright Moon up and for this pass this evening all but about two of the targets are pointed fairly much away from it and since we did have the opportunity here on the SL2 to get in the S183 passes, it just looked like a good bet to get some more data and so we decided to do it this way. And we're gonna take a look at the data and I guess we'll know after you come home.

CDR (garble) It's running just fine.

CC Roger.

CC Incidentally, we got about 10 minutes left in this pass.

SP? Everybody's gone to bed up here except the CDR and the PLT.

CC Roger.

CDR Don't let him fool you. Dr. Vampire is laying out his blood sucking instruments right now.

CC Roger. Incidentally, I don't know how the weather is in Europe tonight, but you're going to be crossing the coast of Spain here in just about 3 or 4 minutes and looking at our big map up there, it looks to me like you're going to be going just north of Madrid and south of Paris and then continue on over the Alps.

CDR Yeah, it's a goodlooking pass, Dick. but unfortunately we got spacecraft sunrise in 6-1/2 minutes and that really wipes out the ground.

CC Roger.

CDR Went smack over Paris last night,

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Time: 18:09 CDT 26:23:09 CMT
6/19/73

just as it was really heaving into view, the Sun hit it.

CC Rog.

CC Skylab, Houston. We're 1 minute from
LOS at Madrid. See you in the morning.

CDR Nighty-right.

PAO Skylab Control at 23 hours 24 minutes

Greenwich mean time. We have lost signal at the Madrid tracking station after a Canary Island and Madrid combination pass, and we will not hear from the crew again this evening. That was the final good-night given by spacecraft communicator Dick Truly, who is serving his final term as spacecraft communicator during the first Skylab manned mission. Temperatures in the sleep compartment and the experimental compartment ceiling transducers have begun coming down again. They had increased several degrees when the parasol was rotated about 25 degrees earlier in the day. Commander Conrad had planned on a 15 degree rotation and moved the parasol about 10 degrees back to correct that mistaken estimate on the rotation angle. On a few of the external wall sensors outside the orbital workshop living area, not where the crew is located, but outside that area, the temperatures rose from 10 to 50 degrees due to both the increasingly long time the spacecraft now remains in the Sun and due to the changed position of the sunshade. Inside the workshop, only a very small change was observed. Room temperatures remained in the high seventies. The sleep compartment ceiling and the ceiling of the experimental compartment rose several degrees from - reaching levels of about 81 to 83 degrees. These have now moved down about 1 degree each over the past 2 hours and are expected to continue receding. The purpose of the slight parasol rotation was to cover a small hot spot near the orbital workshop's water storage tanks, because many hours are required for changes in internal temperature. The success of the change, suggested by Conrad after this morning's EVA to retrieve film, won't be certain until some time tomorrow. Today's extraveicular activity began about an hour earlier than expected and required only about half of the 3 hours set aside for the removal and replacement of film and camera assemblies for several of the telescopes and photographic facilities used to study the Sun. Commander Conrad also succeeded in reactivating charger battery regulator module number 15, one of two batteries in the ATM solar array system that had gone off. CBRM number 15 had been out of operation since before the manned launch, but by tapping on the battery screw only once, Commander Conrad succeeded in closing an open relay and again the battery is

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Time: 18:09 GMT 18:13:09 GMT
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now successfully generating power. This added approximately 150 to 250 watts in power to the system, and it is now reading fully charged. All 18 of the ATM batteries are, in fact, fully charged now, although number 3 is still has a regulator out, and for that reason is not functional. During this last pass just before daylight, the commander of the spacecraft was told that he might take a look at the ground track and be able to observe the Alps and Paris. He said that - the reply from the astronauts was that they did not have much luck in seeing things at dawn period, which tended to wipe out the ground. They also reported that S093 is now operating. S093 operations were scheduled twice today when they discovered they had considerable time left over after that very successful and very quickly done EVA this morning. S093 is the ultra violet panoramic experiment being operated for a French government agency in Marseilles, France and its purpose is to study hot stars in the galaxy of which our Sun is a part. They did indicate that the Moon is about two thirds up at this time and they were curious as to whether or not that would give them valid data. The report here from our corollary science officer was that we are testing our constraints, in other words, trying to discover whether or not the camera used in that UV experiment can successfully gather data when the Moon is up. One of the other purposes of running that UV camera today is to test whether or not the film in the carousel part of the camera will operate properly using old film. During the second use of that camera, using the new film that was carried up when the old film was believed to have deteriorated too much because of heat, the camera jammed and they felt that it may be due to the fact that hand machine slides were used rather than the precision machine slides used in the original film. So that was a test of that using old film which may in fact be of much value to them anyway. They did indicate that several of the hot stars being studied were targets that were away from the area of the Moon and for that reason the data, if it is useful data may not have been interfered with by the Moon anyway. The report also was that this last pass that everybody is asleep except the CDR and Pilot, that is to say that Science Pilot Joseph Kerwin is believed now to be asleep. The indication from his M133 sleep monitor is invalid which indicates that it may not be hooked up properly or we may have some problem in the telemetry. But normally the sleep monitor that he wears as a cap, does indicate the present state of sleep, whether he's in light sleep, deep sleep or awake. But, we

SL-11 NC-1244/4

Time: 18:09 CDT 26:23:09 GMT

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got no reading of that over the Madrid station. It's been a very successful day on Skylab. The crew is now believed to be ready for sleep and we do not expect to hear from them again until two a. m. in the morning when a wakeup call goes up from the on duty spacecraft communicator. This is Skylab Control signing off until tomorrow morning at approximately 2 a. m.

END OF TAPE

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SL-11 NC-1245/1

Time: 20:07 CDT, 27:01:07 GMT
6/19/73

PAO This is the news center at 01:07 G.m.t on mission day 27. We've had one additional unexpected communication with the crew. One of the crewmen called just to assure that they had left the teleprinter properly configured to receive messages. It was properly configured. Here is a replay of that tape.

CC Skylab, Houston. We see a 10000 DO NOT ENTER on the DAS. Go ahead.

CC Skylab, Houston. We see a 2000 do not enter in the DAS, and we're AOS Bermuda. Go ahead.

PLT Okay, Richard. We noticed a little bit ago that we had cut you out of the teleprinter by leaving it ON instead of in COMMAND. You guys know that? Do you know which messages got up?

CC Roger. Stand by 1.

PLT Okay. Let me tell you. The last one that we're pretty sure we received was either to put out the (garble) dates or the 183 pad. Whichever of those two was last.

CC Stand by.

MCC Skylab, Houston. We would prefer the switch in COMMAND. It turns out we do have a way to get around that by commanding. However, we had not got to the point where we needed it, and you do have all the messages onboard we've up-linked.

PLT Okay. Good enough. It's back in COMMAND - it's back in COMMAND now, Dick. See you in the morning.

CC Okay. See you.

PAO This is the Skylab News Center at 01:09 G.m.t. on mission day 27. Out.

END CT TAPE